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Date of Deposit: August 27, 2004

5538-1010seqlisting.txt  
SEQUENCE LISTING

<110> Eric Potter Clarkson

<120> Methods and compositions for desensitisation

<130> 5538/1010

<140> US 09/610,134

<141> 2000-07-05

<150> PCT/GB99/00080

<151> 1999-01-11

<150> GB/9800445.0

<151> 1998-01-09

<150> GB/9820474.6

<151> 1998-09-21

<160> 124

<170> PatentIn version 3.0

<210> 1

<211> 17

<212> PRT

<213> Felis catus

<400> 1

Leu Phe Leu Thr Gly Thr Pro Asp Glu Tyr Val Glu Gln Val Ala Gln  
1 5 10 15

5538-1010seqlisting.txt

Tyr

<210> 2

<211> 16

<212> PRT

<213> Felis catus

<400> 2

Glu Gln Val Ala Gln Tyr Lys Ala Leu Pro Val Val Leu Glu Asn Ala  
1 5 10 15

<210> 3

<211> 17

<212> PRT

<213> Felis catus

<400> 3

Lys Ala Leu Pro Val Val Leu Glu Asn Ala Arg Ile Leu Lys Asn Cys  
1 5 10 15

Val

<210> 4

<211> 70

<212> PRT

<213> Felis catus

<400> 4

Glu Ile Cys Pro Ala Val Lys Asp Arg Val Asp Leu Phe Leu Thr Gly  
1 5 10 15

Thr Pro Asp Glu Tyr Val Glu Gln Val Ala Gln Tyr Lys Ala Leu Pro  
20 25 30

Val Val Leu Glu Asn Ala Arg Ile Leu Lys Asn Cys Val Asp Ala Lys  
35 40 45

Met Thr Glu Glu Asp Lys Glu Asn Ala Leu Ser Leu Leu Asp Lys Ile  
50 55 60

Tyr Thr Ser Pro Leu Cys  
65 70

5538-1010seqlisting.txt

<210> 5

<211> 92

<212> PRT

<213> Felis catus

<400> 5

Val Lys Met Ala Glu Thr Cys Pro Ile Phe Tyr Asp Val Phe Phe Ala  
 1 5 10 15  
 Val Ala Asn Gly Asn Glu Leu Leu Leu Lys Leu Ser Leu Thr Lys Val  
 20 25 30  
 Asn Ala Thr Glu Pro Glu Arg Thr Ala Met Lys Lys Ile Gln Asp Cys  
 35 40 45  
 Tyr Val Glu Asn Gly Leu Ile Ser Arg Val Leu Asp Gly Leu Val Met  
 50 55 60  
 Thr Thr Ile Ser Ser Ser Lys Asp Cys Met Gly Glu Ala Val Gln Asn  
 65 70 75 80  
 Thr Val Glu Asp Leu Lys Leu Asn Thr Leu Gly Arg  
 85 90

<210> 6

<211> 17

<212> PRT

<213> Felis catus

<400> 6

Glu Ile Cys Pro Ala Val Lys Arg Asp Val Asp Leu Phe Leu Thr Gly  
 1 5 10 15  
 Thr

<210> 7

<211> 17

<212> PRT

<213> Felis catus

<400> 7

Arg Ile Leu Lys Asn Cys Val Asp Ala Lys Met Thr Glu Glu Asp Lys  
 1 5 10 15

Glu

&lt;210&gt; 8

&lt;211&gt; 16

&lt;212&gt; PRT

&lt;213&gt; Felis catus

&lt;400&gt; 8

Lys	Met	Thr	Glu	Glu	Asp	Lys	Glu	Asn	Ala	Leu	Ser	Leu	Leu	Asp	Lys
1				5					10					15	

&lt;210&gt; 9

&lt;211&gt; 16

&lt;212&gt; PRT

&lt;213&gt; Felis catus

&lt;400&gt; 9

Lys	Glu	Asn	Ala	Leu	Ser	Val	Leu	Asp	Lys	Ile	Tyr	Thr	Ser	Pro	Leu
1				5					10					15	

&lt;210&gt; 10

&lt;211&gt; 16

&lt;212&gt; PRT

&lt;213&gt; Felis catus

&lt;400&gt; 10

Val	Lys	Met	Ala	Glu	Thr	Cys	Pro	Ile	Phe	Tyr	Asp	Val	Phe	Phe	Ala
1				5					10					15	

&lt;210&gt; 11

&lt;211&gt; 17

&lt;212&gt; PRT

&lt;213&gt; Felis catus

&lt;400&gt; 11

Cys	Pro	Ile	Phe	Tyr	Asp	Val	Phe	Phe	Ala	Val	Ala	Asn	Gly	Asn	Glu
1				5					10					15	

5538-1010seqlisting.txt

Leu

<210> 12

<211> 16

<212> PRT

<213> Felis catus

<400> 12

Gly Asn Glu Leu Leu Leu Lys Leu Ser Leu Thr Lys Val Asn Ala Thr  
1 5 10 15

<210> 13

<211> 16

<212> PRT

<213> Felis catus

<400> 13

Leu Thr Lys Val Asn Ala Thr Glu Pro Glu Arg Thr Ala Met Lys Lys  
1 5 10 15

<210> 14

<211> 16

<212> PRT

<213> Felis catus

<400> 14

Thr Ala Met Lys Lys Ile Gln Asp Cys Tyr Val Glu Asn Gly Leu Ile  
1 5 10 15

<210> 15

<211> 16

<212> PRT

<213> Felis catus

<400> 15

Cys Tyr Val Glu Asn Gly Leu Ile Ser Arg Val Leu Asp Gly Leu Val  
1 5 10 15

5538-1010seqlisting.txt

<210> 16

<211> 16

<212> PRT

<213> Felis catus

<400> 16

Ser Arg Val Leu Asp Gly Leu Val Met Thr Thr Ile Ser Ser Ser Lys  
1 5 10 15

<210> 17

<211> 16

<212> PRT

<213> Felis catus

<400> 17

Ile Ser Ser Ser Lys Asp Cys Met Gly Glu Ala Val Gln Asn Thr Val  
1 5 10 15

<210> 18

<211> 16

<212> PRT

<213> Felis catus

<400> 18

Ala Val Gln Asn Thr Val Glu Asp Leu Lys Leu Asn Thr Leu Gly Arg  
1 5 10 15

<210> 19

<211> 320

<212> PRT

<213> Dermatophagooides pteronyssinus

<400> 19

Met Lys Ile Val Leu Ala Ile Ala Ser Leu Leu Ala Leu Ser Ala Val  
1 5 10 15

Tyr Ala Arg Pro Ser Ser Ile Lys Thr Phe Glu Glu Tyr Lys Lys Ala  
20 25 30

## 5538-1010seqlisting.txt

Phe Asn Lys Ser Tyr Ala Thr Phe Glu Asp Glu Glu Ala Ala Arg Lys  
 35 40 45  
 Asn Phe Leu Glu Ser Val Lys Tyr Val Gln Ser Asn Gly Gly Ala Ile  
 50 55 60  
 Asn His Leu Ser Asp Leu Ser Leu Asp Glu Phe Lys Asn Arg Phe Leu  
 65 70 75 80  
 Met Ser Ala Glu Ala Phe Glu His Leu Lys Thr Gln Phe Asp Leu Asn  
 85 90 95  
 Ala Glu Thr Asn Ala Cys Ser Ile Asn Gly Asn Ala Pro Ala Glu Ile  
 100 105 110  
 Asp Leu Arg Gln Met Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly  
 115 120 125  
 Cys Gly Ser Cys Trp Ala Phe Ser Gly Val Ala Ala Thr Glu Ser Ala  
 130 135 140  
 Tyr Leu Ala Tyr Arg Asn Gln Ser Leu Asp Leu Ala Glu Gln Glu Leu  
 145 150 155 160  
 Val Asp Cys Ala Ser Gln His Gly Cys His Gly Asp Thr Ile Pro Arg  
 165 170 175  
 Gly Ile Glu Tyr Ile Gln His Asn Gly Val Val Gln Glu Ser Tyr Tyr  
 180 185 190  
 Arg Tyr Val Ala Arg Glu Gln Ser Cys Arg Arg Pro Asn Ala Gln Arg  
 195 200 205  
 Phe Gly Ile Ser Asn Tyr Cys Gln Ile Tyr Pro Pro Asn Val Asn Lys  
 210 215 220  
 Ile Arg Glu Ala Leu Ala Gln Thr His Ser Ala Ile Ala Val Ile Ile  
 225 230 235 240  
 Gly Ile Lys Asp Leu Asp Ala Phe Arg His Tyr Asp Gly Arg Thr Ile  
 245 250 255  
 Ile Gln Arg Asp Asn Gly Tyr Gln Pro Asn Tyr His Ala Val Asn Ile  
 260 265 270  
 Val Gly Tyr Ser Asn Ala Gln Gly Val Asp Tyr Trp Ile Val Arg Asn  
 275 280 285  
 Ser Trp Asp Thr Asn Trp Gly Asp Asn Gly Tyr Gly Tyr Phe Ala Ala  
 290 295 300  
 Asn Ile Asp Leu Met Met Ile Glu Glu Tyr Pro Tyr Val Val Ile Leu  
 305 310 315 320

&lt;210&gt; 20

&lt;211&gt; 146

&lt;212&gt; PRT

&lt;213&gt; Dermatophagoides pteronyssinus

5538-1010seqlisting.txt

<400> 20

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Met Met Tyr Lys Ile Leu Cys Leu Ser Leu Leu Val Ala Ala Val Ala
1      5      10
Arg Asp Gln Val Asp Val Lys Asp Cys Ala Asn His Glu Ile Lys Lys
20     25     30
Val Leu Val Pro Gly Cys His Gly Ser Glu Pro Cys Ile Ile His Arg
35     40     45
Gly Lys Pro Phe Gln Leu Glu Ala Val Phe Glu Ala Asn Gln Asn Thr
50     55     60
Lys Thr Ala Lys Ile Glu Ile Lys Ala Ser Ile Asp Gly Leu Glu Val
65     70     75
Asp Val Pro Gly Ile Asp Pro Asn Ala Cys His Tyr Met Lys Cys Pro
85     90     95
Leu Val Lys Gly Gln Gln Tyr Asp Ile Lys Tyr Thr Trp Asn Val Pro
100    105    110
Lys Ile Ala Pro Lys Ser Glu Asn Val Val Val Thr Val Lys Val Met
115    120    125
Gly Asp Asp Gly Val Leu Ala Cys Ala Ile Ala Thr His Ala Lys Ile
130    135    140
Arg Asp
145

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<210> 21

<211> 261

<212> PRT

<213> Dermatophagoides pteronyssinus

<400> 21

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Met Ile Ile Tyr Asn Ile Leu Ile Val Leu Leu Leu Ala Ile Asn Thr
1      5      10      15
Leu Ala Asn Pro Ile Leu Pro Ala Ser Pro Asn Ala Thr Ile Val Gly
20     25     30
Gly Glu Lys Ala Leu Ala Gly Glu Cys Pro Tyr Gln Ile Ser Leu Gln
35     40     45
Ser Ser Ser His Phe Cys Gly Gly Thr Ile Leu Asp Glu Tyr Trp Ile
50     55     60
Leu Thr Ala Ala His Cys Val Ala Gly Gln Thr Ala Ser Lys Leu Ser
65     70     75     80
Ile Arg Tyr Asn Ser Leu Lys His Ser Leu Gly Gly Glu Lys Ile Ser
85     90     95

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Val Ala Lys Ile Phe Ala His Glu Lys Tyr Asp Ser Tyr Gln Ile Asp  
100 105 110  
Asn Asp Ile Ala Leu Ile Lys Leu Lys Ser Pro Met Lys Leu Asn Gln  
115 120 125  
Lys Asn Ala Lys Ala Val Gly Leu Pro Ala Lys Gly Ser Asp Val Lys  
130 135 140  
Val Gly Asp Gln Val Arg Val Ser Gly Trp Gly Tyr Leu Glu Glu Gly  
145 150 155 160  
Ser Tyr Ser Leu Pro Ser Glu Leu Arg Arg Val Asp Ile Ala Val Val  
165 170 175  
Ser Arg Lys Glu Cys Asn Glu Leu Tyr Ser Lys Ala Asn Ala Glu Val  
180 185 190  
Thr Asp Asn Met Ile Cys Gly Gly Asp Val Ala Asn Gly Gly Lys Asp  
195 200 205  
Ser Cys Gln Gly Asp Ser Gly Gly Pro Val Val Asp Val Lys Asn Asn  
210 215 220  
Gln Val Val Gly Ile Val Ser Trp Gly Tyr Gly Cys Ala Arg Lys Gly  
225 230 235 240  
Tyr Pro Gly Val Tyr Thr Arg Val Gly Asn Phe Ile Asp Trp Ile Glu  
245 250 255  
Ser Lys Arg Ser Gln  
260

<210> 22

<211> 19

<212> PRT

<213> Dermatophagooides pteronyssinus

<220>

<221> misc\_feature

<223> X is an unknown amino acid

<400> 22

Lys Tyr Xaa Asn Pro His Phe Ile Gly Xaa Arg Ser Val Ile Thr Xaa  
1 5 10 15  
Leu Met Glu

<210> 23

<211> 132

&lt;212&gt; PRT

&lt;213&gt; Dermatophagoides pteronyssinus

&lt;400&gt; 23

Met Lys Phe Ile Ile Ala Phe Phe Val Ala Thr Leu Ala Val Met Thr  
 1 5 10 15  
 Val Ser Gly Glu Asp Lys Lys His Asp Tyr Gln Asn Glu Phe Asp Phe  
 20 25 30  
 Leu Leu Met Glu Arg Ile His Glu Gln Ile Lys Lys Gly Glu Leu Ala  
 35 40 45  
 Leu Phe Tyr Leu Gln Glu Gln Ile Asn His Phe Glu Glu Lys Pro Thr  
 50 55 60  
 Lys Glu Met Lys Asp Lys Ile Val Ala Glu Met Asp Thr Ile Ile Ala  
 65 70 75 80  
 Met Ile Asp Gly Val Arg Gly Val Leu Asp Arg Leu Met Gln Arg Lys  
 85 90 95  
 Asp Leu Asp Ile Phe Glu Gln Tyr Asn Leu Glu Met Ala Lys Lys Ser  
 100 105 110  
 Gly Asp Ile Leu Glu Arg Asp Leu Lys Lys Glu Glu Ala Arg Val Lys  
 115 120 125  
 Lys Ile Glu Val  
 130

&lt;210&gt; 24

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Dermatophagoides pteronyssinus

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; x ia unknown amino acid

&lt;400&gt; 24

Ala Ile Gly Xaa Gln Pro Ala Ala Glu Ala Glu Ala Pro Phe Gln Ile  
 1 5 10 15  
 Ser Leu Met Lys  
 20

&lt;210&gt; 25

&lt;211&gt; 215

&lt;212&gt; PRT

&lt;213&gt; Dermatophagoides pteronyssinus

&lt;400&gt; 25

Met Met Lys Leu Leu Leu Ile Ala Ala Ala Phe Val Ala Val Ser  
 1 5 10 15  
 Ala Asp Pro Ile His Tyr Asp Lys Ile Thr Glu Glu Ile Asn Lys Ala  
 20 25 30  
 Val Asp Glu Ala Val Ala Ala Ile Glu Lys Ser Glu Thr Phe Asp Pro  
 35 40 45  
 Met Lys Val Pro Asp His Ser Asp Lys Phe Glu Arg His Ile Gly Ile  
 50 55 60  
 Ile Asp Leu Lys Gly Glu Leu Asp Met Arg Asn Ile Gln Val Arg Gly  
 65 70 75 80  
 Leu Lys Gln Met Lys Arg Val Gly Asp Ala Asn Val Lys Ser Glu Asp  
 85 90 95  
 Gly Val Val Lys Ala His Leu Leu Val Gly Val His Asp Asp Val Val  
 100 105 110  
 Ser Met Glu Tyr Asp Leu Ala Tyr Lys Leu Gly Asp Leu His Pro Asn  
 115 120 125  
 Thr His Val Ile Ser Asp Ile Gln Asp Phe Val Val Glu Leu Ser Leu  
 130 135 140  
 Glu Val Ser Glu Glu Gly Asn Met Thr Leu Thr Ser Phe Glu Val Arg  
 145 150 155 160  
 Gln Phe Ala Asn Val Val Asn His Ile Gly Gly Leu Ser Ile Leu Asp  
 165 170 175  
 Pro Ile Phe Ala Val Leu Ser Asp Val Leu Thr Ala Ile Phe Gln Asp  
 180 185 190  
 Thr Val Arg Ala Glu Met Thr Lys Val Leu Ala Pro Ala Phe Lys Lys  
 195 200 205  
 Glu Leu Glu Arg Asn Asn Gln  
 210 215

&lt;210&gt; 26

&lt;211&gt; 18

&lt;212&gt; PRT

&lt;213&gt; Dermatophagoides pteronyssinus

&lt;400&gt; 26

5538-1010seqlisting.txt

Ile Val Gly Gly Ser Asn Ala Ser Pro Gly Asp Ala Val Tyr Gln Ile  
1 5 10 15

Ala Leu

<210> 27

<211> 319

<212> PRT

<213> Dermatophagoides farinae

<400> 27

Met Lys Phe Val Leu Ala Ile Ala Ser Leu Leu Val Leu Thr Val Tyr  
1 5 10 15

Ala Arg Pro Ala Ser Ile Lys Thr Phe Glu Phe Lys Lys Ala Phe Asn  
20 25 30

Lys Asn Tyr Ala Thr Val Glu Glu Glu Glu Val Ala Arg Lys Asn Phe  
35 40 45

Leu Glu Ser Leu Lys Tyr Val Glu Ala Asn Lys Gly Ala Ile Asn His  
50 55 60

Leu Ser Asp Leu Ser Leu Asp Glu Phe Lys Asn Arg Tyr Leu Met Ser  
65 70 75 80

Ala Glu Ala Phe Glu Gln Leu Lys Thr Gln Phe Asp Leu Asn Ala Glu  
85 90 95

Thr Ser Ala Cys Arg Ile Asn Ser Val Asn Val Pro Ser Glu Leu Asp  
100 105 110

Leu Arg Ser Leu Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly Cys  
115 120 125

Gly Ser Cys Trp Ala Phe Ser Gly Val Ala Ala Thr Glu Ser Ala Tyr  
130 135 140

Leu Ala Tyr Arg Asn Thr Ser Leu Asp Leu Ser Glu Gln Glu Leu Val  
145 150 155 160

Asp Cys Ala Ser Gln His Gly Cys His Gly Asp Thr Ile Pro Arg Gly  
165 170 175

Ile Glu Tyr Ile Gln Gln Asn Gly Val Val Glu Glu Arg Ser Tyr Pro  
180 185 190

Tyr Val Ala Arg Glu Gln Arg Cys Arg Arg Pro Asn Ser Gln His Tyr  
195 200 205

Gly Ile Ser Asn Tyr Cys Gln Ile Tyr Pro Pro Asp Val Lys Gln Ile  
210 215 220

Arg Glu Ala Leu Thr Gln Thr His Thr Ala Ile Ala Val Ile Ile Gly  
225 230 235 240

5538-1010seqlisting.txt

Ile Lys Asp Leu Arg Ala Phe Gln His Tyr Asp Gly Arg Thr Ile Ile  
245 250 255  
Gln His Asp Asn Gly Tyr Gln Pro Asn Tyr His Ala Val Asn Ile Val  
260 265 270  
Gly Tyr Gly Ser Thr Gln Gly Asp Asp Tyr Trp Ile Val Arg Asn Ser  
275 280 285  
Trp Asp Thr Thr Trp Gly Asp Ser Gly Tyr Gly Tyr Phe Gln Ala Gly  
290 295 300  
Asn Asn Leu Met Met Ile Glu Gln Tyr Pro Tyr Val Val Ile Met  
305 310 315

<210> 28

<211> 146

<212> PRT

<213> Dermatophagoides farinae

<400> 28

Met Ile Ser Lys Ile Leu Cys Leu Ser Leu Leu Val Ala Ala Val Val  
1 5 10 15  
Ala Asp Gln Val Asp Val Lys Asp Cys Ala Asn Asn Glu Ile Lys Lys  
20 25 30  
Val Met Val Asp Gly Cys His Gly Ser Asp Pro Cys Ile Ile His Arg  
35 40 45  
Gly Lys Pro Phe Thr Leu Glu Ala Leu Phe Asp Ala Asn Gln Asn Thr  
50 55 60  
Lys Thr Ala Lys Ile Glu Ile Lys Ala Ser Leu Asp Gly Leu Glu Ile  
65 70 75 80  
Asp Val Pro Gly Ile Asp Thr Asn Ala Cys His Phe Met Lys Cys Pro  
85 90 95  
Leu Val Lys Gly Gln Gln Tyr Asp Ile Lys Tyr Thr Trp Asn Val Pro  
100 105 110  
Lys Ile Ala Pro Lys Ser Glu Asn Val Val Val Thr Val Lys Leu Ile  
115 120 125  
Gly Asp Asn Gly Val Leu Ala Cys Ala Ile Ala Thr His Gly Lys Ile  
130 135 140

Arg Asp  
145

<210> 29

<211> 259

<212> PRT

&lt;213&gt; Dermatophagoides farinae

&lt;400&gt; 29

Met Met Ile Leu Thr Ile Val Val Leu Leu Ala Ala Asn Ile Leu Ala  
 1 5 10 15  
 Thr Pro Ile Leu Pro Ser Ser Pro Asn Ala Thr Ile Val Gly Gly Val  
 20 25 30  
 Lys Ala Gln Ala Gly Asp Cys Pro Tyr Gln Ile Ser Leu Gln Ser Ser  
 35 40 45  
 Ser His Phe Cys Gly Gly Ser Ile Leu Asp Glu Tyr Trp Ile Leu Thr  
 50 55 60  
 Ala Ala His Cys Val Asn Gly Gln Ser Ala Lys Lys Leu Ser Ile Arg  
 65 70 75 80  
 Tyr Asn Thr Leu Lys His Ala Ser Gly Gly Glu Lys Ile Gln Val Ala  
 85 90 95  
 Glu Ile Tyr Gln His Glu Asn Tyr Asp Ser Met Thr Ile Asp Asn Asp  
 100 105 110  
 Val Ala Leu Ile Lys Leu Lys Thr Pro Met Thr Leu Asp Gln Thr Asn  
 115 120 125  
 Ala Lys Pro Val Pro Leu Pro Ala Gln Gly Ser Asp Val Lys Val Gly  
 130 135 140  
 Asp Lys Ile Arg Val Ser Gly Trp Gly Tyr Leu Gln Glu Gly Ser Tyr  
 145 150 155 160  
 Ser Leu Pro Ser Glu Leu Gln Arg Val Asp Ile Asp Val Val Ser Arg  
 165 170 175  
 Glu Gln Cys Asp Gln Leu Tyr Ser Lys Ala Gly Ala Asp Val Ser Glu  
 180 185 190  
 Asn Met Ile Cys Gly Gly Asp Val Ala Asn Gly Gly Val Asp Ser Cys  
 195 200 205  
 Gln Gly Asp Ser Gly Gly Pro Val Val Asp Val Ala Thr Lys Gln Ile  
 210 215 220  
 Val Gly Ile Val Ser Trp Gly Tyr Gly Cys Ala Arg Lys Gly Tyr Pro  
 225 230 235 240  
 Gly Val Tyr Thr Arg Val Gly Asn Phe Val Asp Trp Ile Glu Ser Lys  
 245 250 255  
 Arg Ser Gln

&lt;210&gt; 30

&lt;211&gt; 20

&lt;212&gt; PRT

<213> Dermatophagoides farinae

<400> 30

Ala Val Gly Gly Gln Asp Ala Asp Leu Ala Glu Ala Pro Phe Gln Ile  
1 5 10 15  
Ser Leu Leu Lys  
20

<210> 31

<211> 213

<212> PRT

<213> Dermatophagoides farinae

<400> 31

Met Met Lys Phe Leu Leu Ile Ala Ala Val Ala Phe Val Ala Val Ser  
1 5 10 15  
Ala Asp Pro Ile His Tyr Asp Lys Ile Thr Glu Glu Ile Asn Lys Ala  
20 25 30  
Ile Asp Asp Ala Ile Ala Ala Ile Glu Gln Ser Glu Thr Ile Asp Pro  
35 40 45  
Met Lys Val Pro Asp His Ala Asp Lys Phe Glu Arg His Val Gly Ile  
50 55 60  
Val Asp Phe Lys Gly Glu Leu Ala Met Arg Asn Ile Glu Ala Arg Gly  
65 70 75 80  
Leu Lys Gln Met Lys Arg Gln Gly Asp Ala Asn Val Lys Gly Glu Glu  
85 90 95  
Gly Ile Val Lys Ala His Leu Leu Ile Gly Val His Asp Asp Ile Val  
100 105 110  
Ser Met Glu Tyr Asp Leu Ala Tyr Lys Leu Gly Asp Leu His Pro Thr  
115 120 125  
Thr His Val Ile Ser Asp Ile Gln Asp Phe Val Val Ala Leu Ser Leu  
130 135 140  
Glu Ile Ser Asp Glu Gly Asn Ile Thr Met Thr Ser Phe Glu Val Arg  
145 150 155 160  
Gln Phe Ala Asn Val Val Asn His Ile Gly Gly Leu Ser Ile Leu Asp  
165 170 175  
Pro Ile Phe Gly Val Leu Ser Asp Val Leu Thr Ala Ile Phe Gln Asp  
180 185 190  
Thr Val Arg Lys Glu Met Thr Lys Val Leu Ala Pro Ala Phe Lys Arg  
195 200 205

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Glu Leu Glu Lys Asn  
210

<210> 32

<211> 109

<212> PRT

<213> Felis catus

<400> 32

Met Arg Gly Ala Leu Leu Val Leu Ala Leu Leu Val Thr Gln Ala Leu  
1 5 10 15  
Gly Val Lys Met Ala Glu Thr Cys Pro Ile Phe Tyr Asp Val Phe Phe  
20 25 30  
Ala Val Ala Asn Gly Asn Glu Leu Leu Leu Asp Leu Ser Leu Thr Lys  
35 40 45  
Val Asn Ala Thr Glu Pro Glu Arg Thr Ala Met Lys Lys Ile Gln Asp  
50 55 60  
Cys Tyr Val Glu Asn Gly Leu Ile Ser Arg Val Leu Asp Gly Leu Val  
65 70 75 80  
Met Thr Thr Ile Ser Ser Ser Lys Asp Cys Met Gly Glu Ala Val Gln  
85 90 95  
Asn Thr Val Glu Asp Leu Lys Leu Asn Thr Leu Gly Arg  
100 105

<210> 33

<211> 88

<212> PRT

<213> Felis catus

<400> 33

Met Leu Asp Ala Ala Leu Pro Pro Cys Pro Thr Val Ala Ala Thr Ala  
1 5 10 15  
Asp Cys Glu Ile Cys Pro Ala Val Lys Arg Asp Val Asp Leu Phe Leu  
20 25 30  
Thr Gly Thr Pro Asp Glu Tyr Val Glu Gln Val Ala Gln Tyr Lys Ala  
35 40 45  
Leu Pro Val Val Leu Glu Asn Ala Arg Ile Leu Lys Asn Cys Val Asp  
50 55 60  
Ala Lys Met Thr Glu Glu Asp Lys Glu Asn Ala Leu Ser Leu Leu Asp  
65 70 75 80



5538-1010seqlisting.txt

Lys Ile Tyr Thr Ser Pro Leu Cys  
85

<210> 34

<211> 92

<212> PRT

<213> Felis catus

<400> 34

Met Lys Gly Ala Arg Val Leu Val Leu Leu Trp Ala Ala Leu Leu Leu  
1 5 10 15  
Ile Trp Gly Gly Asn Cys Glu Ile Cys Pro Ala Val Lys Arg Asp Val  
20 25 30  
Asp Leu Phe Leu Thr Gly Thr Pro Asp Glu Tyr Val Glu Gln Val Ala  
35 40 45  
Gln Tyr Lys Ala Leu Pro Val Val Leu Glu Asn Ala Arg Ile Leu Lys  
50 55 60  
Asn Cys Val Asp Ala Lys Met Thr Glu Glu Asp Lys Glu Asn Ala Leu  
65 70 75 80  
Ser Leu Leu Asp Lys Ile Tyr Thr Ser Pro Leu Cys  
85 90

<210> 35

<211> 138

<212> PRT

<213> Hevea brasiliensis

<400> 35

Met Ala Glu Asp Glu Asp Asn Gln Gln Gly Gln Gly Glu Gly Leu Lys  
1 5 10 15  
Tyr Leu Gly Phe Val Gln Asp Ala Ala Thr Tyr Ala Val Thr Thr Phe  
20 25 30  
Ser Asn Val Tyr Leu Phe Ala Lys Asp Lys Ser Gly Pro Leu Gln Pro  
35 40 45  
Gly Val Asp Ile Ile Glu Gly Pro Val Lys Asn Val Ala Val Pro Leu  
50 55 60  
Tyr Asn Arg Phe Ser Tyr Ile Pro Asn Gly Ala Leu Lys Phe Val Asp  
65 70 75 80  
Ser Thr Val Val Ala Ser Val Thr Ile Ile Asp Arg Ser Leu Pro Pro  
85 90 95

5538-1010seqlisting.txt

Ile Val Lys Asp Ala Ser Ile Gln Val Val Ser Ala Ile Arg Ala Ala  
100 105 110

Pro Glu Ala Ala Arg Ser Leu Ala Ser Ser Leu Pro Gly Gln Thr Lys  
115 120 125

Ile Leu Ala Lys Val Phe Tyr Gly Glu Asn  
130 135

<210> 36

<211> 204

<212> PRT

<213> Hevea brasiliensis

<400> 36

Met Ala Glu Glu Val Glu Glu Glu Arg Leu Lys Tyr Leu Asp Phe Val  
1 5 10 15

Arg Ala Ala Gly Val Tyr Ala Val Asp Ser Phe Ser Thr Leu Tyr Leu  
20 25 30

Tyr Ala Lys Asp Ile Ser Gly Pro Leu Lys Pro Gly Val Asp Thr Ile  
35 40 45

Glu Asn Val Val Lys Thr Val Val Thr Pro Val Tyr Tyr Ile Pro Leu  
50 55 60

Glu Ala Val Lys Phe Val Asp Lys Thr Val Asp Val Ser Val Thr Ser  
65 70 75 80

Leu Asp Gly Val Val Pro Pro Val Ile Lys Gln Val Ser Ala Gln Thr  
85 90 95

Tyr Ser Val Ala Gln Asp Ala Pro Arg Ile Val Leu Asp Val Ala Ser  
100 105 110

Ser Val Phe Asn Thr Gly Val Gln Glu Gly Ala Lys Ala Leu Tyr Ala  
115 120 125

Asn Leu Glu Pro Lys Ala Glu Gln Tyr Ala Val Ile Thr Trp Arg Ala  
130 135 140

Leu Asn Lys Leu Pro Leu Val Pro Gln Val Ala Asn Val Val Val Pro  
145 150 155 160

Thr Ala Val Tyr Phe Ser Glu Lys Tyr Asn Asp Val Val Arg Gly Thr  
165 170 175

Thr Glu Gln Gly Tyr Arg Val Ser Ser Tyr Leu Pro Leu Leu Pro Thr  
180 185 190

Glu Lys Ile Thr Lys Val Phe Gly Asp Glu Ala Ser  
195 200

<210> 37

&lt;211&gt; 263

&lt;212&gt; PRT

<213> *Lolium perenne*

&lt;400&gt; 37

Met Ala Ser Ser Ser Ser Val Leu Leu Val Val Ala Leu Phe Ala Val  
 1 5 10 15  
 Phe Leu Gly Ser Ala His Gly Ile Ala Lys Val Pro Pro Gly Pro Asn  
 20 25 30  
 Ile Thr Ala Glu Tyr Gly Asp Lys Trp Leu Asp Ala Lys Ser Thr Trp  
 35 40 45  
 Tyr Gly Lys Pro Thr Gly Ala Gly Pro Lys Asp Asn Gly Gly Ala Cys  
 50 55 60  
 Gly Tyr Lys Asn Val Asp Lys Ala Pro Phe Asn Gly Met Thr Gly Cys  
 65 70 75 80  
 Gly Asn Thr Pro Ile Phe Lys Asp Gly Arg Gly Cys Gly Ser Cys Phe  
 85 90 95  
 Glu Ile Lys Cys Thr Lys Pro Glu Ser Cys Ser Gly Glu Ala Val Thr  
 100 105 110  
 Val Thr Ile Thr Asp Asp Asn Glu Glu Pro Ile Ala Pro Tyr His Phe  
 115 120 125  
 Asp Leu Ser Gly His Ala Phe Gly Ser Met Ala Lys Lys Gly Glu Glu  
 130 135 140  
 Gln Asn Val Arg Ser Ala Gly Glu Leu Glu Leu Gln Phe Arg Arg Val  
 145 150 155 160  
 Lys Cys Lys Tyr Pro Asp Asp Thr Lys Pro Thr Phe His Val Glu Lys  
 165 170 175  
 Ala Ser Asn Pro Asn Tyr Leu Ala Ile Leu Val Lys Tyr Val Asp Gly  
 180 185 190  
 Asp Gly Asp Val Val Ala Val Asp Ile Lys Glu Lys Gly Lys Asp Lys  
 195 200 205  
 Trp Ile Glu Leu Lys Glu Ser Trp Gly Ala Val Trp Arg Ile Asp Thr  
 210 215 220  
 Pro Asp Lys Leu Thr Gly Pro Phe Thr Val Arg Tyr Thr Thr Glu Gly  
 225 230 235 240  
 Gly Thr Lys Ser Glu Phe Glu Asp Val Ile Pro Glu Gly Trp Lys Ala  
 245 250 255  
 Asp Thr Ser Tyr Ser Ala Lys  
 260

&lt;210&gt; 38

&lt;211&gt; 97

&lt;212&gt; PRT

&lt;213&gt; Lolium perenne

&lt;400&gt; 38

Ala Ala Pro Val Glu Phe Thr Val Glu Lys Gly Ser Asp Glu Lys Asn  
 1 5 10 15  
 Leu Ala Leu Ser Ile Lys Tyr Asn Lys Glu Gly Asp Ser Met Ala Glu  
 20 25 30  
 Val Glu Leu Lys Glu His Gly Ser Asn Glu Trp Leu Ala Leu Lys Lys  
 35 40 45  
 Asn Gly Asp Gly Val Trp Glu Ile Lys Ser Asp Lys Pro Leu Lys Gly  
 50 55 60  
 Pro Phe Asn Phe Arg Phe Val Ser Glu Lys Gly Met Arg Asn Val Phe  
 65 70 75 80  
 Asp Asp Val Val Pro Ala Asp Phe Lys Val Gly Thr Thr Tyr Lys Pro  
 85 90 95  
 Glu

&lt;210&gt; 39

&lt;211&gt; 97

&lt;212&gt; PRT

&lt;213&gt; Lolium perenne

&lt;400&gt; 39

Thr Lys Val Asp Leu Thr Val Glu Lys Gly Ser Asp Ala Lys Thr Leu  
 1 5 10 15  
 Val Leu Asn Ile Lys Tyr Thr Arg Pro Gly Asp Thr Leu Ala Glu Val  
 20 25 30  
 Glu Leu Arg Gln His Gly Ser Glu Glu Trp Glu Pro Met Thr Lys Lys  
 35 40 45  
 Gly Asn Leu Trp Glu Val Lys Ser Ala Lys Pro Leu Thr Gly Pro Met  
 50 55 60  
 Asn Phe Arg Phe Leu Ser Lys Gly Gly Met Lys Asn Val Phe Asp Glu  
 65 70 75 80  
 Val Ile Pro Thr Ala Phe Thr Val Gly Lys Thr Tyr Thr Pro Glu Tyr  
 85 90 95  
 Asn

## 5538-1010seqlisting.txt

&lt;210&gt; 40

&lt;211&gt; 308

&lt;212&gt; PRT

&lt;213&gt; Lolium perenne

&lt;400&gt; 40

Met Ala Val Gln Lys Tyr Thr Val Ala Leu Phe Leu Arg Arg Gly Pro  
 1 5 10 15  
 Arg Gly Gly Pro Gly Arg Ser Tyr Ala Ala Asp Ala Gly Tyr Thr Pro  
 20 25 30  
 Ala Ala Ala Ala Thr Pro Ala Thr Pro Ala Ala Thr Pro Ala Gly Gly  
 35 40 45  
 Trp Arg Glu Gly Asp Asp Arg Arg Ala Glu Ala Ala Gly Gly Arg Gln  
 50 55 60  
 Arg Leu Ala Ser Arg Gln Pro Trp Pro Pro Leu Pro Thr Pro Leu Arg  
 65 70 75 80  
 Arg Thr Ser Ser Arg Ser Ser Arg Pro Pro Ser Pro Ser Pro Pro Arg  
 85 90 95  
 Ala Ser Ser Pro Thr Ser Ala Ala Lys Ala Pro Gly Leu Ile Pro Lys  
 100 105 110  
 Leu Asp Thr Ala Tyr Asp Val Ala Tyr Lys Ala Ala Glu Ala His Pro  
 115 120 125  
 Arg Gly Gln Val Arg Arg Leu Arg His Cys Pro His Arg Ser Leu Arg  
 130 135 140  
 Val Ile Ala Gly Ala Leu Glu Val His Ala Val Lys Pro Ala Thr Glu  
 145 150 155 160  
 Glu Val Leu Ala Ala Lys Ile Pro Thr Gly Glu Leu Gln Ile Val Asp  
 165 170 175  
 Lys Ile Asp Ala Ala Phe Lys Ile Ala Ala Thr Ala Ala Asn Ala Ala  
 180 185 190  
 Pro Thr Asn Asp Lys Phe Thr Val Phe Glu Ser Ala Phe Asn Lys Ala  
 195 200 205  
 Leu Asn Glu Cys Thr Gly Gly Ala Met Arg Pro Thr Ser Ser Ser Pro  
 210 215 220  
 Pro Ser Arg Pro Arg Ser Ser Arg Pro Thr Pro Pro Pro Ser Pro Ala  
 225 230 235 240  
 Ala Pro Glu Val Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala  
 245 250 255  
 Ile Thr Ala Met Thr Gln Ala Gln Lys Ala Gly Lys Pro Ala Ala Ala  
 260 265 270

5538-1010seqlisting.txt

Ala Ala Thr Ala Ala Ala Thr Val Ala Thr Ala Ala Ala Thr Ala Ala  
275 280 285

Ala Val Leu Pro Pro Pro Leu Leu Val Val Gln Ser Leu Ile Ser Leu  
290 295 300

Leu Ile Tyr Tyr  
305

<210> 41

<211> 339

<212> PRT

<213> Lolium perenne

<400> 41

Met Ala Val Gln Lys His Thr Val Ala Leu Phe Leu Ala Val Ala Leu  
1 5 10 15

Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Ala Gly Tyr Ala Pro  
20 25 30

Ala Thr Pro Ala Thr Pro Ala Ala Pro Ala Thr Ala Ala Thr Pro Ala  
35 40 45

Thr Pro Ala Thr Pro Ala Thr Pro Ala Ala Val Pro Ser Gly Lys Ala  
50 55 60

Thr Thr Glu Glu Gln Lys Leu Ile Glu Lys Ile Asn Ala Gly Phe Lys  
65 70 75 80

Ala Ala Val Ala Ala Ala Ala Val Val Pro Pro Ala Asp Lys Tyr Lys  
85 90 95

Thr Phe Val Glu Thr Phe Gly Thr Ala Thr Asn Lys Ala Phe Val Glu  
100 105 110

Gly Leu Ala Ser Gly Tyr Ala Asp Gln Ser Lys Asn Gln Leu Thr Ser  
115 120 125

Lys Leu Asp Ala Ala Leu Lys Leu Ala Tyr Glu Ala Ala Gln Gly Ala  
130 135 140

Thr Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala Thr Leu Thr Glu Ala  
145 150 155 160

Leu Arg Val Ile Ala Gly Thr Leu Glu Val His Ala Val Lys Pro Ala  
165 170 175

Ala Glu Glu Val Lys Val Gly Ala Ile Pro Ala Ala Glu Val Gln Leu  
180 185 190

Ile Asp Lys Val Asp Ala Ala Tyr Arg Thr Ala Ala Thr Ala Ala Asn  
195 200 205

Ala Ala Pro Ala Asn Asp Lys Phe Thr Val Phe Glu Asn Thr Phe Asn  
210 215 220

5538-1010seqlisting.txt

Asn Ala Ile Lys Val Ser Leu Gly Ala Ala Tyr Asp Ser Tyr Lys Phe  
 225 230 235 240  
 Ile Pro Thr Leu Val Ala Ala Val Lys Gln Ala Tyr Ala Ala Lys Gln  
 245 250 255  
 Ala Thr Ala Pro Glu Val Lys Tyr Thr Val Ser Glu Thr Ala Leu Lys  
 260 265 270  
 Lys Ala Val Thr Ala Met Ser Glu Ala Glu Lys Glu Ala Thr Pro Ala  
 275 280 285  
 Ala Ala Ala Thr Ala Thr Pro Thr Pro Ala Ala Ala Thr Ala Thr Ala  
 290 295 300  
 Thr Pro Ala Ala Ala Tyr Ala Thr Ala Thr Pro Ala Ala Ala Thr Ala  
 305 310 315 320  
 Thr Ala Thr Pro Ala Ala Ala Thr Ala Thr Pro Ala Ala Ala Gly Gly  
 325 330 335

Tyr Lys Val

<210> 42

<211> 339

<212> PRT

<213> Lolium perenne

<400> 42

Met Ala Val Gln Lys His Thr Val Ala Leu Phe Leu Ala Val Ala Leu  
 1 5 10 15  
 Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Ala Gly Tyr Ala Pro  
 20 25 30  
 Ala Thr Pro Ala Thr Pro Ala Ala Pro Ala Thr Ala Ala Thr Pro Ala  
 35 40 45  
 Thr Pro Ala Thr Pro Ala Thr Pro Ala Ala Val Pro Ser Gly Lys Ala  
 50 55 60  
 Thr Thr Glu Glu Gln Lys Leu Ile Glu Lys Ile Asn Ala Gly Phe Lys  
 65 70 75 80  
 Ala Ala Val Ala Ala Ala Ala Val Val Pro Pro Ala Asp Lys Tyr Lys  
 85 90 95  
 Thr Phe Val Glu Thr Phe Gly Thr Ala Thr Asn Lys Ala Phe Val Glu  
 100 105 110  
 Gly Leu Ala Ser Gly Tyr Ala Asp Gln Ser Lys Asn Gln Leu Thr Ser  
 115 120 125  
 Lys Leu Asp Ala Ala Leu Lys Leu Ala Tyr Glu Ala Ala Gln Gly Ala  
 130 135 140

5538-1010seqlisting.txt

Thr Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala Thr Leu Thr Glu Ala  
145 150 155 160  
Leu Arg Val Ile Ala Gly Thr Leu Glu Val His Ala Val Lys Pro Ala  
165 170 175  
Ala Glu Glu Val Lys Val Gly Ala Ile Pro Ala Ala Glu Val Gln Leu  
180 185 190  
Ile Asp Lys Val Asp Ala Ala Tyr Arg Thr Ala Ala Thr Ala Ala Asn  
195 200 205  
Ala Ala Pro Ala Asn Asp Lys Phe Thr Val Phe Glu Asn Thr Phe Asn  
210 215 220  
Asn Ala Ile Lys Val Ser Leu Gly Ala Ala Tyr Asp Ser Tyr Lys Phe  
225 230 235 240  
Ile Pro Thr Leu Val Ala Ala Val Lys Gln Ala Tyr Ala Ala Lys Gln  
245 250 255  
Ala Thr Ala Pro Glu Val Lys Tyr Thr Val Ser Glu Thr Ala Leu Lys  
260 265 270  
Lys Ala Val Thr Ala Met Ser Glu Ala Glu Lys Glu Ala Thr Pro Ala  
275 280 285  
Ala Ala Ala Thr Ala Thr Pro Thr Pro Ala Ala Ala Thr Ala Thr Ala  
290 295 300  
Thr Pro Ala Ala Ala Tyr Ala Thr Ala Thr Pro Ala Ala Ala Thr Ala  
305 310 315 320  
Thr Ala Thr Pro Ala Ala Ala Thr Ala Thr Pro Ala Ala Ala Gly Gly  
325 330 335

Tyr Lys Val

<210> 43

<211> 134

<212> PRT

<213> Lolium perenne

<220>

<221> misc\_feature

<223> X is unknown amino acid

<400> 43

Asp Lys Gly Pro Gly Phe Val Val Thr Gly Arg Val Tyr Cys Asp Pro  
1 5 10 15



Cys Arg Ala Gly Phe Glu Thr Asn Val Ser His Asn Val Glu Gly Ala  
           20                  25                  30  
 Thr Val Ala Val Asp Cys Arg Pro Phe Asp Gly Gly Glu Ser Lys Leu  
           35                  40                  45  
 Lys Ala Glu Ala Thr Thr Asp Lys Asp Gly Trp Tyr Lys Ile Glu Ile  
           50                  55                  60  
 Asp Gln Asp His Gln Glu Glu Ile Cys Glu Val Val Leu Ala Lys Ser  
   65                  70                  75                  80  
 Pro Asp Lys Ser Cys Ser Glu Ile Glu Glu Phe Arg Asp Arg Ala Arg  
           85                  90                  95  
 Val Pro Leu Thr Ser Asn Xaa Gly Ile Lys Gln Gln Gly Ile Arg Tyr  
          100                 105                 110  
 Ala Asn Pro Ile Ala Phe Phe Arg Lys Glu Pro Leu Lys Glu Cys Gly  
          115                 120                 125  
 Gly Ile Leu Gln Ala Tyr  
          130

<210> 44

<211> 145

<212> PRT

<213> Olea europaea

<400> 44

Glu Asp Ile Pro Gln Pro Pro Val Ser Gln Phe His Ile Gln Gly Gln  
   1                  5                 10                 15  
 Val Tyr Cys Asp Thr Cys Arg Ala Gly Phe Ile Thr Glu Leu Ser Glu  
          20                 25                 30  
 Phe Ile Pro Gly Ala Ser Leu Arg Leu Gln Cys Lys Asp Lys Glu Asn  
          35                 40                 45  
 Gly Asp Val Thr Phe Thr Glu Val Gly Tyr Thr Arg Ala Glu Gly Leu  
          50                 55                 60  
 Tyr Ser Met Leu Val Glu Arg Asp His Lys Asn Glu Phe Cys Glu Ile  
   65                 70                 75                 80  
 Thr Leu Ile Ser Ser Gly Arg Lys Asp Cys Asn Glu Ile Pro Thr Glu  
          85                 90                 95  
 Gly Trp Ala Lys Pro Ser Leu Lys Phe Lys Leu Asn Thr Val Asn Gly  
          100                 105                 110  
 Thr Thr Arg Thr Val Asn Pro Leu Gly Phe Phe Lys Lys Glu Ala Leu  
          115                 120                 125  
 Pro Lys Cys Ala Gln Val Tyr Asn Lys Leu Gly Met Tyr Pro Pro Asn  
          130                 135                 140

5538-1010seqlisting.txt

Met  
145

<210> 45

<211> 133

<212> PRT

<213> Parietaria judaica

<400> 45

```

Met Arg Thr Val Ser Met Ala Ala Leu Val Val Ile Ala Ala Ala Leu
1      5      10      15
Ala Trp Thr Ser Ser Ala Glu Pro Ala Pro Ala Pro Ala Pro Gly Glu
20     25     30
Glu Ala Cys Gly Lys Val Val Gln Asp Ile Met Pro Cys Leu His Phe
35     40     45
Val Lys Gly Glu Glu Lys Glu Pro Ser Lys Glu Cys Cys Ser Gly Thr
50     55     60
Lys Lys Leu Ser Glu Glu Val Lys Thr Thr Glu Gln Lys Arg Glu Ala
65     70     75     80
Cys Lys Cys Ile Val Arg Ala Thr Lys Gly Ile Ser Gly Ile Lys Asn
85     90     95
Glu Leu Val Ala Glu Val Pro Lys Lys Cys Asp Ile Lys Thr Thr Leu
100    105    110
Pro Pro Ile Thr Ala Asp Phe Asp Cys Ser Lys Ile Gln Ser Thr Ile
115    120    125
Phe Arg Gly Tyr Tyr
130

```

<210> 46

<211> 133

<212> PRT

<213> Parietaria judaica

<400> 46

```

Met Val Arg Ala Leu Met Pro Cys Leu Pro Phe Val Gln Gly Lys Glu
1      5      10      15
Lys Glu Pro Ser Lys Gly Cys Cys Ser Gly Ala Lys Arg Leu Asp Gly
20     25     30
Glu Thr Lys Thr Gly Pro Gln Arg Val His Ala Cys Glu Cys Ile Gln
35     40     45

```

5538-1010seqlisting.txt

Thr Ala Met Lys Thr Tyr Ser Asp Ile Asp Gly Lys Leu Val Ser Glu  
50 55 60  
Val Pro Lys His Cys Gly Ile Val Asp Ser Lys Leu Pro Pro Ile Asp  
65 70 75 80  
Val Asn Met Asp Cys Lys Thr Val Gly Val Val Pro Arg Gln Pro Gln  
85 90 95  
Leu Pro Val Ser Leu Arg His Gly Pro Val Thr Gly Pro Ser Asp Pro  
100 105 110  
Ala His Lys Ala Arg Leu Glu Arg Pro Gln Ile Arg Val Pro Pro Pro  
115 120 125  
Ala Pro Glu Lys Ala  
130

<210> 47

<211> 133

<212> PRT

<213> Parietaria judaica

<400> 47

Met Arg Thr Val Ser Met Ala Ala Leu Val Val Ile Ala Ala Ala Leu  
1 5 10 15  
Ala Trp Thr Ser Ser Ala Glu Leu Ala Ser Ala Pro Ala Pro Gly Glu  
20 25 30  
Gly Pro Cys Gly Lys Val Val His His Ile Met Pro Cys Leu Lys Phe  
35 40 45  
Val Lys Gly Glu Glu Lys Glu Pro Ser Lys Ser Cys Cys Ser Gly Thr  
50 55 60  
Lys Lys Leu Ser Glu Glu Val Lys Thr Thr Glu Gln Lys Arg Glu Ala  
65 70 75 80  
Cys Lys Cys Ile Val Ala Ala Thr Lys Gly Ile Ser Gly Ile Lys Asn  
85 90 95  
Glu Leu Val Ala Glu Val Pro Lys Lys Cys Gly Ile Thr Thr Thr Leu  
100 105 110  
Pro Pro Ile Thr Ala Asp Phe Asp Cys Ser Lys Ile Glu Ser Thr Ile  
115 120 125  
Phe Arg Gly Tyr Tyr  
130

<210> 48

<211> 176

<212> PRT

&lt;213&gt; Parietaria judaica

&lt;400&gt; 48

Met Arg Thr Val Ser Ala Pro Ser Ala Val Ala Leu Val Val Ile Val  
 1 5 10 15  
 Ala Ala Gly Leu Ala Trp Thr Ser Leu Ala Ser Val Ala Pro Pro Ala  
 20 25 30  
 Pro Ala Pro Gly Ser Glu Glu Thr Cys Gly Thr Val Val Arg Ala Leu  
 35 40 45  
 Met Pro Cys Leu Pro Phe Val Gln Gly Lys Glu Lys Glu Pro Ser Lys  
 50 55 60  
 Gly Cys Cys Ser Gly Ala Lys Arg Leu Asp Gly Glu Thr Lys Thr Gly  
 65 70 75 80  
 Leu Gln Arg Val His Ala Cys Glu Cys Ile Gln Thr Ala Met Lys Thr  
 85 90 95  
 Tyr Ser Asp Ile Asp Gly Lys Leu Val Ser Glu Val Pro Lys His Cys  
 100 105 110  
 Gly Ile Val Asp Ser Lys Leu Pro Pro Ile Asp Val Asn Met Asp Cys  
 115 120 125  
 Lys Thr Leu Gly Val Val Pro Arg Gln Pro Gln Leu Pro Val Ser Leu  
 130 135 140  
 Arg His Gly Pro Val Thr Gly Pro Ser Asp Pro Ala His Lys Ala Arg  
 145 150 155 160  
 Leu Glu Arg Pro Gln Ile Arg Val Pro Pro Pro Ala Pro Glu Lys Ala  
 165 170 175

&lt;210&gt; 49

&lt;211&gt; 138

&lt;212&gt; PRT

&lt;213&gt; Parietaria judaica

&lt;400&gt; 49

Met Arg Thr Val Ser Ala Arg Ser Ser Val Ala Leu Val Val Ile Val  
 1 5 10 15  
 Ala Ala Val Leu Val Trp Thr Ser Ser Ala Ser Val Ala Pro Ala Pro  
 20 25 30  
 Ala Pro Gly Ser Glu Glu Thr Cys Gly Thr Val Val Gly Ala Leu Met  
 35 40 45  
 Pro Cys Leu Pro Phe Val Gln Gly Lys Glu Lys Glu Pro Ser Lys Gly  
 50 55 60

## 5538-1010seqlisting.txt

Cys Cys Ser Gly Ala Lys Arg Leu Asp Gly Glu Thr Lys Thr Gly Pro  
 65 70 75 80  
 Gln Arg Val His Ala Cys Glu Cys Ile Gln Thr Ala Met Lys Thr Tyr  
 85 90 95  
 Ser Asp Ile Asp Gly Lys Leu Val Ser Glu Val Pro Lys His Cys Gly  
 100 105 110  
 Ile Val Asp Ser Lys Leu Pro Pro Ile Asp Val Asn Met Asp Cys Lys  
 115 120 125  
 Thr Leu Gly Val Leu His Tyr Lys Gly Asn  
 130 135

&lt;210&gt; 50

&lt;211&gt; 143

&lt;212&gt; PRT

&lt;213&gt; Parietaria judaica

&lt;400&gt; 50

Met Val Arg Ala Leu Met Pro Cys Leu Pro Phe Val Gln Gly Lys Glu  
 1 5 10 15  
 Lys Glu Pro Ser Lys Gly Cys Cys Ser Gly Ala Lys Arg Leu Asp Gly  
 20 25 30  
 Glu Thr Lys Thr Gly Pro Gln Arg Val His Ala Cys Glu Cys Ile Gln  
 35 40 45  
 Thr Ala Met Lys Thr Tyr Ser Asp Ile Asp Gly Lys Leu Val Ser Glu  
 50 55 60  
 Val Pro Lys His Cys Gly Ile Val Asp Ser Lys Leu Pro Pro Ile Asp  
 65 70 75 80  
 Val Asn Met Asp Cys Lys Thr Val Gly Val Val Pro Arg Gln Pro Gln  
 85 90 95  
 Leu Pro Val Ser Leu Arg His Gly Pro Val Thr Gly Pro Ser Arg Ser  
 100 105 110  
 Arg Pro Pro Thr Lys His Gly Trp Arg Asp Pro Arg Leu Glu Phe Arg  
 115 120 125  
 Pro Pro His Arg Lys Lys Pro Asn Pro Ala Phe Ser Thr Leu Gly  
 130 135 140

&lt;210&gt; 51

&lt;211&gt; 263

&lt;212&gt; PRT

&lt;213&gt; Phleum pratense

&lt;400&gt; 51

Met Ala Ser Ser Ser Ser Val Leu Leu Val Val Val Leu Phe Ala Val  
 1 5 10 15  
 Phe Leu Gly Ser Ala Tyr Gly Ile Pro Lys Val Pro Pro Gly Pro Asn  
 20 25 30  
 Ile Thr Ala Thr Tyr Gly Asp Lys Trp Leu Asp Ala Lys Ser Thr Trp  
 35 40 45  
 Tyr Gly Lys Pro Thr Gly Ala Gly Pro Lys Asp Asn Gly Gly Ala Cys  
 50 55 60  
 Gly Tyr Lys Asp Val Asp Lys Pro Pro Phe Ser Gly Met Thr Gly Cys  
 65 70 75 80  
 Gly Asn Thr Pro Ile Phe Lys Ser Gly Arg Gly Cys Gly Ser Cys Phe  
 85 90 95  
 Glu Ile Lys Cys Thr Lys Pro Glu Ala Cys Ser Gly Glu Pro Val Val  
 100 105 110  
 Val His Ile Thr Asp Asp Asn Glu Glu Pro Ile Ala Pro Tyr His Phe  
 115 120 125  
 Asp Leu Ser Gly His Ala Phe Gly Ala Met Ala Lys Lys Gly Asp Glu  
 130 135 140  
 Gln Lys Leu Arg Ser Ala Gly Glu Leu Glu Leu Gln Phe Arg Arg Val  
 145 150 155 160  
 Lys Cys Lys Tyr Pro Glu Gly Thr Lys Val Thr Phe His Val Glu Lys  
 165 170 175  
 Gly Ser Asn Pro Asn Tyr Leu Ala Leu Leu Val Lys Tyr Val Asn Gly  
 180 185 190  
 Asp Gly Asp Val Val Ala Val Asp Ile Lys Glu Lys Gly Lys Asp Lys  
 195 200 205  
 Trp Ile Glu Leu Lys Glu Ser Trp Gly Ala Ile Trp Arg Ile Asp Thr  
 210 215 220  
 Pro Asp Lys Leu Thr Gly Pro Phe Thr Val Arg Tyr Thr Thr Glu Gly  
 225 230 235 240  
 Gly Thr Lys Thr Glu Ala Glu Asp Val Ile Pro Glu Gly Trp Lys Ala  
 245 250 255  
 Asp Thr Ser Tyr Glu Ser Lys  
 260

&lt;210&gt; 52

&lt;211&gt; 262

&lt;212&gt; PRT

&lt;213&gt; Phleum pratense

&lt;400&gt; 52

Met Ala Ser Ser Ser Ser Val Leu Leu Val Val Ala Leu Phe Ala Val  
 1 5 10 15  
 Phe Leu Gly Ser Ala His Gly Ile Pro Lys Val Pro Pro Gly Pro Asn  
 20 25 30  
 Ile Thr Ala Thr Tyr Gly Asp Lys Trp Leu Asp Ala Lys Ser Thr Trp  
 35 40 45  
 Tyr Gly Lys Pro Thr Ala Ala Gly Pro Lys Asp Asn Gly Gly Ala Cys  
 50 55 60  
 Gly Tyr Lys Asp Val Asp Lys Pro Pro Phe Ser Gly Met Thr Gly Cys  
 65 70 75 80  
 Gly Asn Thr Pro Ile Phe Lys Ser Gly Arg Gly Cys Gly Ser Cys Phe  
 85 90 95  
 Glu Ile Lys Cys Thr Lys Pro Glu Ala Cys Ser Gly Glu Pro Val Val  
 100 105 110  
 Val His Ile Thr Asp Asp Asn Glu Glu Pro Ile Ala Ala Tyr His Phe  
 115 120 125  
 Asp Leu Ser Gly Ile Ala Phe Gly Ser Met Ala Lys Lys Gly Asp Glu  
 130 135 140  
 Gln Lys Leu Arg Ser Ala Gly Glu Val Glu Ile Gln Phe Arg Arg Val  
 145 150 155 160  
 Lys Cys Lys Tyr Pro Glu Gly Thr Lys Val Thr Phe His Val Glu Lys  
 165 170 175  
 Gly Ser Asn Pro Asn Tyr Leu Ala Leu Leu Val Lys Phe Ser Gly Asp  
 180 185 190  
 Gly Asp Val Val Ala Val Asp Ile Lys Glu Lys Gly Lys Asp Lys Trp  
 195 200 205  
 Ile Ala Leu Lys Glu Ser Trp Gly Ala Ile Trp Arg Ile Asp Thr Pro  
 210 215 220  
 Glu Val Leu Lys Gly Pro Phe Thr Val Arg Tyr Thr Thr Glu Gly Gly  
 225 230 235 240  
 Thr Lys Ala Arg Ala Lys Asp Val Ile Pro Glu Gly Trp Lys Ala Asp  
 245 250 255  
 Thr Ala Tyr Glu Ser Lys  
 260

&lt;210&gt; 53

&lt;211&gt; 122

&lt;212&gt; PRT

&lt;213&gt; Phleum pratense

5538-1010seqlisting.txt

<400> 53

Met Ser Met Ala Ser Ser Ser Ser Ser Ser Leu Leu Ala Met Ala Val  
 1 5 10 15  
 Leu Ala Ala Leu Phe Ala Gly Ala Trp Cys Val Pro Lys Val Thr Phe  
 20 25 30  
 Thr Val Glu Lys Gly Ser Asn Glu Lys His Leu Ala Val Leu Val Lys  
 35 40 45  
 Tyr Glu Gly Asp Thr Met Ala Glu Val Glu Leu Arg Glu His Gly Ser  
 50 55 60  
 Asp Glu Trp Val Ala Met Thr Lys Gly Glu Gly Gly Val Trp Thr Phe  
 65 70 75 80  
 Asp Ser Glu Glu Pro Leu Gln Gly Pro Phe Asn Phe Arg Phe Leu Thr  
 85 90 95  
 Glu Lys Gly Met Lys Asn Val Phe Asp Asp Val Val Pro Glu Lys Tyr  
 100 105 110  
 Thr Ile Gly Ala Thr Tyr Ala Pro Glu Glu  
 115 120

<210> 54

<211> 276

<212> PRT

<213> Phleum pratense

<400> 54

Ala Asp Leu Gly Tyr Gly Gly Pro Ala Thr Pro Ala Ala Pro Ala Glu  
 1 5 10 15  
 Ala Ala Pro Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu  
 20 25 30  
 Lys Ile Asn Asp Gly Phe Lys Ala Ala Leu Ala Ala Ala Ala Gly Val  
 35 40 45  
 Pro Pro Ala Asp Lys Tyr Lys Thr Phe Val Ala Thr Phe Gly Ala Ala  
 50 55 60  
 Ser Asn Lys Ala Phe Ala Glu Gly Leu Ser Ala Glu Pro Lys Gly Ala  
 65 70 75 80  
 Ala Glu Ser Ser Ser Lys Ala Ala Leu Thr Ser Lys Leu Asp Ala Ala  
 85 90 95  
 Tyr Lys Leu Ala Tyr Lys Thr Ala Glu Gly Ala Thr Pro Glu Ala Lys  
 100 105 110  
 Tyr Asp Ala Tyr Val Ala Thr Leu Ser Glu Ala Leu Arg Ile Ile Ala  
 115 120 125



Gly Thr Leu Glu Val His Ala Val Lys Pro Ala Ala Glu Glu Val Lys  
 130 135 140  
 Val Ile Pro Ala Gly Glu Leu Gln Val Ile Glu Lys Val Asp Ser Ala  
 145 150 155 160  
 Phe Lys Val Ala Ala Thr Ala Ala Asn Ala Ala Pro Ala Asn Asp Lys  
 165 170 175  
 Phe Thr Val Phe Glu Ala Ala Phe Asn Asn Ala Ile Lys Ala Ser Thr  
 180 185 190  
 Gly Gly Ala Tyr Glu Ser Tyr Lys Phe Ile Pro Ala Leu Glu Ala Ala  
 195 200 205  
 Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Thr Ala Pro Glu Val Lys  
 210 215 220  
 Tyr Thr Val Phe Glu Thr Ala Leu Lys Lys Ala Phe Thr Ala Met Ser  
 225 230 235 240  
 Glu Ala Gln Lys Ala Ala Lys Pro Ala Thr Glu Ala Thr Ala Thr Ala  
 245 250 255  
 Thr Ala Ala Val Gly Ala Ala Thr Gly Ala Ala Thr Ala Ala Thr Gly  
 260 265 270  
 Gly Tyr Lys Val  
 275

<210> 55

<211> 276

<212> PRT

<213> Phleum pratense

<400> 55

Ala Asp Leu Gly Tyr Gly Gly Pro Ala Thr Pro Ala Ala Pro Ala Glu  
 1 5 10 15  
 Ala Ala Pro Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu  
 20 25 30  
 Lys Ile Asn Asp Gly Phe Lys Ala Ala Leu Ala Ala Ala Gly Val  
 35 40 45  
 Pro Pro Ala Asp Lys Tyr Lys Thr Phe Val Ala Thr Phe Gly Ala Ala  
 50 55 60  
 Ser Asn Lys Ala Phe Ala Glu Gly Leu Ser Ala Glu Pro Lys Gly Ala  
 65 70 75 80  
 Ala Glu Ser Ser Ser Lys Ala Ala Leu Thr Ser Lys Leu Asp Ala Ala  
 85 90 95  
 Tyr Lys Leu Ala Tyr Lys Thr Ala Glu Gly Ala Thr Pro Glu Ala Lys  
 100 105 110

5538-1010seqlisting.txt

Tyr Asp Ala Tyr Val Ala Thr Leu Ser Glu Ala Leu Arg Ile Ile Ala  
115 120 125  
Gly Thr Leu Glu Val His Ala Val Lys Pro Ala Ala Glu Glu Val Lys  
130 135 140  
Val Ile Pro Ala Gly Glu Leu Gln Val Ile Glu Lys Val Asp Ser Ala  
145 150 155 160  
Phe Lys Val Ala Ala Thr Ala Ala Asn Ala Ala Pro Ala Asn Asp Lys  
165 170 175  
Phe Thr Val Phe Glu Ala Ala Phe Asn Asn Ala Ile Lys Ala Ser Thr  
180 185 190  
Gly Gly Ala Tyr Glu Ser Tyr Lys Phe Ile Pro Ala Leu Glu Ala Ala  
195 200 205  
Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Thr Ala Pro Glu Val Lys  
210 215 220  
Tyr Thr Val Phe Glu Thr Ala Leu Lys Lys Ala Ile Thr Ala Met Ser  
225 230 235 240  
Glu Ala Gln Lys Ala Ala Lys Pro Ala Thr Glu Ala Thr Ala Thr Ala  
245 250 255  
Thr Ala Ala Val Gly Ala Ala Thr Gly Ala Ala Thr Ala Ala Thr Gly  
260 265 270  
Gly Tyr Lys Val  
275

<210> 56

<211> 284

<212> PRT

<213> Phleum pratense

<400> 56

Ala Ala Ala Ala Val Pro Arg Arg Gly Pro Arg Gly Gly Pro Gly Arg  
1 5 10 15  
Ser Tyr Thr Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala  
20 25 30  
Gly Ala Ala Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu  
35 40 45  
Asp Ile Asn Val Gly Phe Lys Ala Ala Val Ala Ala Ala Ala Ser Val  
50 55 60  
Pro Ala Ala Asp Lys Phe Lys Thr Phe Glu Ala Ala Phe Thr Ser Ser  
65 70 75 80  
Ser Lys Ala Ala Ala Ala Lys Ala Pro Gly Leu Val Pro Lys Leu Asp  
85 90 95

5538-1010seqlisting.txt

Ala Ala Tyr Ser Val Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu  
100 105 110  
Ala Lys Phe Asp Ser Phe Val Ala Ser Leu Thr Glu Ala Leu Arg Val  
115 120 125  
Ile Ala Gly Ala Leu Glu Val His Ala Val Lys Pro Val Thr Glu Glu  
130 135 140  
Pro Gly Met Ala Lys Ile Pro Ala Gly Glu Leu Gln Ile Ile Asp Lys  
145 150 155 160  
Ile Asp Ala Ala Phe Lys Val Ala Ala Thr Ala Ala Ala Thr Ala Pro  
165 170 175  
Ala Asp Asp Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Lys Ala Ile  
180 185 190  
Lys Glu Ser Thr Gly Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser  
195 200 205  
Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala  
210 215 220  
Pro Gln Val Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile  
225 230 235 240  
Thr Ala Met Ser Glu Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala  
245 250 255  
Ala Thr Val Ala Ala Gly Ala Ala Thr Thr Ala Ala Gly Ala Ala Ser  
260 265 270  
Gly Ala Ala Thr Val Ala Ala Gly Gly Tyr Lys Val  
275 280

<210> 57

<211> 286

<212> PRT

<213> Phleum pratense

<400> 57

Ala Asp Leu Gly Tyr Gly Pro Ala Thr Pro Ala Ala Pro Ala Ala Gly  
1 5 10 15  
Tyr Thr Pro Ala Thr Pro Ala Ala Pro Ala Gly Ala Asp Ala Ala Gly  
20 25 30  
Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Lys Ile Asn Ala Gly  
35 40 45  
Phe Lys Ala Ala Leu Ala Gly Ala Gly Val Gln Pro Ala Asp Lys Tyr  
50 55 60  
Arg Thr Phe Val Ala Thr Phe Gly Pro Ala Ser Asn Lys Ala Phe Ala  
65 70 75 80

5538-1010seqlisting.txt

Glu Gly Leu Ser Gly Glu Pro Lys Gly Ala Ala Glu Ser Ser Ser Lys  
85 90  
Ala Ala Leu Thr Ser Lys Leu Asp Ala Ala Tyr Lys Leu Ala Tyr Lys  
100 105 110  
Thr Ala Glu Gly Ala Thr Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala  
115 120 125  
Thr Leu Ser Glu Ala Leu Arg Ile Ile Ala Gly Thr Leu Glu Val His  
130 135 140  
Ala Val Lys Pro Ala Ala Glu Glu Val Lys Val Ile Pro Ala Gly Glu  
145 150 155 160  
Leu Gln Val Ile Glu Lys Val Asp Ala Ala Phe Lys Val Ala Ala Thr  
165 170 175  
Ala Ala Asn Ala Ala Pro Ala Asn Asp Lys Phe Thr Val Phe Glu Ala  
180 185 190  
Ala Phe Asn Asp Glu Ile Lys Ala Ser Thr Gly Gly Ala Tyr Glu Ser  
195 200 205  
Tyr Lys Phe Ile Pro Ala Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala  
210 215 220  
Ala Thr Val Ala Thr Ala Pro Glu Val Lys Tyr Thr Val Phe Glu Thr  
225 230 235 240  
Ala Leu Lys Lys Ala Ile Thr Ala Met Ser Glu Ala Gln Lys Ala Ala  
245 250 255  
Lys Pro Ala Ala Ala Ala Thr Ala Thr Ala Thr Ala Ala Val Gly Ala  
260 265 270  
Ala Thr Gly Ala Ala Thr Ala Ala Thr Gly Gly Tyr Lys Val  
275 280 285

<210> 58

<211> 287

<212> PRT

<213> Phleum pratense

<400> 58

Met Ala Val Gln Lys Tyr Thr Val Ala Leu Phe Leu Ala Val Ala Leu  
1 5 10 15  
Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Ala Gly Tyr Ala Pro  
20 25 30  
Ala Thr Pro Ala Ala Ala Gly Ala Glu Ala Gly Lys Ala Thr Thr Glu  
35 40 45  
Glu Gln Lys Leu Ile Glu Asp Ile Asn Val Gly Phe Lys Ala Ala Val  
50 55 60

## 5538-1010seqlisting.txt

Ala Ala Ala Ala Ser Val Pro Ala Ala Asp Lys Phe Lys Thr Phe Glu  
65 70 75 80  
Ala Ala Phe Thr Ser Ser Ser Lys Ala Ala Thr Ala Lys Ala Pro Gly  
85 90 95  
Leu Val Pro Lys Leu Asp Ala Ala Tyr Ser Val Ser Tyr Lys Ala Ala  
100 105 110  
Val Gly Ala Thr Pro Glu Ala Lys Phe Asp Ser Phe Val Ala Ser Leu  
115 120 125  
Thr Glu Ala Leu Arg Val Ile Ala Gly Ala Leu Glu Val His Ala Val  
130 135 140  
Lys Pro Val Thr Glu Glu Pro Gly Met Ala Lys Ile Pro Ala Gly Glu  
145 150 155 160  
Leu Gln Ile Ile Asp Lys Ile Asp Ala Ala Phe Lys Val Ala Ala Thr  
165 170 175  
Ala Ala Ala Thr Ala Pro Ala Asp Thr Val Phe Glu Ala Ala Phe Asn  
180 185 190  
Lys Ala Ile Lys Glu Ser Thr Gly Gly Ala Tyr Asp Thr Tyr Lys Cys  
195 200 205  
Ile Pro Ser Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala Ala Thr Val  
210 215 220  
Ala Ala Ala Pro Gln Val Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr  
225 230 235 240  
Lys Ala Ile Thr Ala Met Ser Glu Val Gln Lys Val Ser Gln Pro Ala  
245 250 255  
Thr Gly Ala Ala Thr Val Ala Ala Gly Ala Ala Thr Thr Ala Ala Gly  
260 265 270  
Ala Ala Ser Gly Ala Ala Thr Val Ala Ala Gly Gly Tyr Lys Val  
275 280 285

&lt;210&gt; 59

&lt;211&gt; 290

&lt;212&gt; PRT

&lt;213&gt; Phleum pratense

&lt;400&gt; 59

Met Ala Val Gln Lys Tyr Thr Val Ala Leu Phe Leu Ala Val Ala Leu  
1 5 10 15  
Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Ala Gly Tyr Ala Pro  
20 25 30  
Ala Thr Pro Ala Ala Ala Gly Ala Glu Ala Gly Lys Ala Thr Thr Glu  
35 40 45

5538-1010seqlisting.txt

Glu Gln Lys Leu Ile Glu Asp Ile Asn Val Gly Phe Lys Ala Ala Val  
50 55 60  
Ala Ala Ala Ala Ser Val Pro Ala Ala Asp Lys Phe Lys Thr Phe Glu  
65 70 75 80  
Ala Ala Phe Thr Ser Ser Ser Lys Ala Ala Thr Ala Lys Ala Pro Gly  
85 90 95  
Leu Val Pro Lys Leu Asp Ala Ala Tyr Ser Val Ala Tyr Lys Ala Ala  
100 105 110  
Val Gly Ala Thr Pro Glu Ala Lys Phe Asp Ser Phe Val Ala Ser Leu  
115 120 125  
Thr Glu Ala Leu Arg Val Ile Ala Gly Ala Leu Glu Val His Ala Val  
130 135 140  
Lys Pro Val Thr Glu Asp Pro Ala Trp Pro Lys Ile Pro Ala Gly Glu  
145 150 155 160  
Leu Gln Ile Ile Asp Lys Ile Asp Ala Ala Phe Lys Val Ala Ala Thr  
165 170 175  
Ala Ala Ala Thr Ala Pro Ala Asp Asp Lys Phe Thr Val Phe Glu Ala  
180 185 190  
Ala Phe Asn Lys Ala Ile Lys Glu Ser Thr Gly Gly Ala Tyr Asp Thr  
195 200 205  
Tyr Lys Cys Ile Pro Ser Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala  
210 215 220  
Ala Thr Val Ala Ala Ala Pro Gln Val Lys Tyr Ala Val Phe Glu Ala  
225 230 235 240  
Ala Leu Thr Lys Ala Ile Thr Ala Met Ser Glu Val Gln Lys Val Ser  
245 250 255  
Gln Pro Ala Thr Gly Ala Ala Thr Val Ala Ala Gly Ala Ala Thr Thr  
260 265 270  
Ala Thr Gly Ala Ala Ser Gly Ala Ala Thr Val Ala Ala Gly Gly Tyr  
275 280 285  
Lys Val  
290

<210> 60

<211> 265

<212> PRT

<213> Phleum pratense

<400> 60

Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala Gly Ala Glu  
1 5 10 15

## 5538-1010seqlisting.txt

Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Asp Ile Asn  
20 25 30  
Val Gly Phe Lys Ala Ala Val Ala Ala Ala Ser Val Pro Ala Ala  
35 40 45  
Asp Lys Phe Lys Thr Phe Glu Ala Ala Phe Thr Ser Ser Ser Lys Ala  
50 55 60  
Ala Thr Ala Lys Ala Pro Gly Leu Val Pro Lys Leu Asp Ala Ala Tyr  
65 70 75 80  
Ser Val Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu Ala Lys Phe  
85 90 95  
Asp Ser Phe Val Ala Ser Leu Thr Glu Ala Leu Arg Val Ile Ala Gly  
100 105 110  
Ala Leu Glu Val His Ala Val Lys Pro Val Thr Glu Glu Pro Gly Met  
115 120 125  
Ala Lys Ile Pro Ala Gly Glu Leu Gln Ile Ile Asp Lys Ile Asp Ala  
130 135 140  
Ala Phe Lys Val Ala Ala Thr Ala Ala Ala Thr Ala Pro Ala Asp Asp  
145 150 155 160  
Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Lys Ala Ile Lys Glu Ser  
165 170 175  
Thr Gly Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser Leu Glu Ala  
180 185 190  
Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala Pro Gln Val  
195 200 205  
Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile Thr Ala Met  
210 215 220  
Ser Glu Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala Ala Thr Val  
225 230 235 240  
Ala Ala Gly Ala Ala Thr Thr Ala Ala Gly Ala Ala Ser Gly Ala Ala  
245 250 255  
Thr Val Ala Ala Gly Gly Tyr Lys Val  
260 265

&lt;210&gt; 61

&lt;211&gt; 295

&lt;212&gt; PRT

&lt;213&gt; Phleum pratense

&lt;400&gt; 61

Ser Val Lys Arg Ser Asn Gly Ser Ala Glu Val His Arg Gly Ala Val  
1 5 10 15

## 5538-1010seqlisting.txt

Pro Arg Arg Gly Pro Arg Gly Gly Pro Gly Arg Ser Tyr Ala Ala Asp  
 20 25 30  
 Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala Gly Ala Glu Ala Gly  
 35 40 45  
 Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Asp Ile Asn Val Gly  
 50 55 60  
 Phe Lys Ala Ala Val Ala Ala Ala Ala Ser Val Pro Ala Ala Asp Lys  
 65 70 75 80  
 Phe Lys Thr Phe Glu Ala Ala Phe Thr Ser Ser Ser Lys Ala Ala Thr  
 85 90 95  
 Ala Lys Ala Pro Gly Leu Val Pro Lys Leu Asp Ala Ala Tyr Ser Val  
 100 105 110  
 Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu Ala Lys Phe Asp Ser  
 115 120 125  
 Phe Val Ala Ser Leu Thr Glu Ala Leu Arg Val Ile Ala Gly Ala Leu  
 130 135 140  
 Glu Val His Ala Val Lys Pro Val Thr Glu Glu Pro Gly Met Ala Lys  
 145 150 155 160  
 Ile Pro Ala Gly Glu Leu Gln Ile Ile Asp Lys Ile Asp Ala Ala Phe  
 165 170 175  
 Lys Val Ala Ala Thr Ala Ala Ala Thr Ala Pro Ala Asp Asp Lys Phe  
 180 185 190  
 Thr Val Phe Glu Ala Ala Phe Asn Lys Ala Ile Lys Glu Ser Thr Gly  
 195 200 205  
 Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser Leu Glu Ala Ala Val  
 210 215 220  
 Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala Pro Gln Val Lys Tyr  
 225 230 235 240  
 Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile Thr Ala Met Ser Glu  
 245 250 255  
 Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala Ala Thr Val Ala Ala  
 260 265 270  
 Gly Ala Ala Thr Thr Ala Ala Gly Ala Ala Ser Gly Ala Ala Thr Val  
 275 280 285  
 Ala Ala Gly Gly Tyr Lys Val  
 290 295

&lt;210&gt; 62

&lt;211&gt; 312

&lt;212&gt; PRT

&lt;213&gt; Phleum pratense



## 5538-1010seqlisting.txt

&lt;400&gt; 62

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Met Ala Val His Gln Tyr Thr Val Ala Leu Phe Leu Ala Val Ala Leu
1      5      10      15
Val Ala Gly Pro Ala Gly Ser Tyr Ala Ala Asp Leu Gly Tyr Gly Pro
20      25
Ala Thr Pro Ala Ala Pro Ala Ala Gly Tyr Thr Pro Ala Thr Pro Ala
35      40      45
Ala Pro Ala Gly Ala Glu Pro Ala Gly Lys Ala Thr Thr Glu Glu Gln
50      55      60
Lys Leu Ile Glu Lys Ile Asn Ala Gly Phe Lys Ala Ala Leu Ala Ala
65      70      75      80
Ala Ala Gly Val Pro Pro Ala Asp Lys Tyr Arg Thr Phe Val Ala Thr
85      90      95
Phe Gly Ala Ala Ser Asn Lys Ala Phe Ala Glu Gly Leu Ser Gly Glu
100     105     110
Pro Lys Gly Ala Ala Glu Ser Ser Ser Lys Ala Ala Leu Thr Ser Lys
115     120     125
Leu Asp Ala Ala Tyr Lys Leu Ala Tyr Lys Thr Ala Glu Gly Ala Thr
130     135     140
Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala Thr Val Ser Glu Ala Leu
145     150     155     160
Arg Ile Ile Ala Gly Thr Leu Glu Val His Ala Val Lys Pro Ala Ala
165     170     175
Glu Glu Val Lys Val Ile Pro Ala Gly Glu Leu Gln Val Ile Glu Lys
180     185     190
Val Asp Ala Ala Phe Lys Val Ala Ala Thr Ala Ala Asn Ala Ala Pro
195     200     205
Ala Asn Asp Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Asp Ala Ile
210     215     220
Lys Ala Ser Thr Gly Gly Ala Tyr Glu Ser Tyr Lys Phe Ile Pro Ala
225     230     235     240
Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Thr Ala
245     250     255
Pro Glu Val Lys Tyr Thr Val Phe Glu Thr Ala Leu Lys Lys Ala Ile
260     265     270
Thr Ala Met Ser Glu Ala Gln Lys Ala Ala Lys Pro Ala Ala Ala Ala
275     280     285
Thr Ala Thr Ala Thr Ala Ala Val Gly Ala Ala Thr Gly Ala Ala Thr
290     295     300
Ala Ala Thr Gly Gly Tyr Lys Val
305     310

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&lt;210&gt; 63

&lt;211&gt; 276

&lt;212&gt; PRT

&lt;213&gt; Phleum pratense

&lt;400&gt; 63

Ala Asp Leu Gly Tyr Gly Gly Pro Ala Thr Pro Ala Ala Pro Ala Glu  
 1 5 10 15  
 Ala Ala Pro Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu  
 20 25 30  
 Lys Ile Asn Asp Gly Phe Lys Ala Ala Leu Ala Ala Ala Ala Gly Val  
 35 40 45  
 Pro Pro Ala Asp Lys Tyr Lys Thr Phe Val Ala Thr Phe Gly Ala Ala  
 50 55 60  
 Ser Asn Lys Ala Phe Ala Glu Gly Leu Ser Ala Glu Pro Lys Gly Ala  
 65 70 75 80  
 Ala Glu Ser Ser Ser Lys Ala Ala Leu Thr Ser Lys Leu Asp Ala Ala  
 85 90 95  
 Tyr Lys Leu Ala Tyr Lys Thr Ala Glu Gly Ala Thr Pro Glu Ala Lys  
 100 105 110  
 Tyr Asp Ala Tyr Val Ala Thr Leu Ser Glu Ala Leu Arg Ile Ile Ala  
 115 120 125  
 Gly Thr Leu Glu Val His Ala Val Lys Pro Ala Ala Glu Glu Val Lys  
 130 135 140  
 Val Ile Pro Ala Gly Glu Leu Gln Val Ile Glu Lys Val Asp Ser Ala  
 145 150 155 160  
 Phe Lys Val Ala Ala Thr Ala Ala Asn Ala Ala Pro Ala Asn Asp Lys  
 165 170 175  
 Phe Thr Val Phe Glu Ala Ala Phe Asn Asn Ala Ile Lys Ala Ser Thr  
 180 185 190  
 Gly Gly Ala Tyr Glu Ser Tyr Lys Phe Ile Pro Ala Leu Glu Ala Ala  
 195 200 205  
 Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Thr Ala Pro Glu Val Lys  
 210 215 220  
 Tyr Thr Val Phe Glu Thr Ala Leu Lys Lys Ala Phe Thr Ala Met Ser  
 225 230 235 240  
 Glu Ala Gln Lys Ala Ala Lys Pro Ala Thr Glu Ala Thr Ala Thr Ala  
 245 250 255  
 Thr Ala Ala Val Gly Ala Ala Thr Gly Ala Ala Thr Ala Ala Thr Gly  
 260 265 270

Gly Tyr Lys Val  
275

<210> 64

<211> 284

<212> PRT

<213> Phleum pratense

<400> 64

Ala Ala Ala Ala Val Pro Arg Arg Gly Pro Arg Gly Gly Pro Gly Arg  
1 5 10 15  
Ser Tyr Thr Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala  
20 25 30  
Gly Ala Ala Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu  
35 40 45  
Asp Ile Asn Val Gly Phe Lys Ala Ala Val Ala Ala Ala Ala Ser Val  
50 55 60  
Pro Ala Ala Asp Lys Phe Lys Thr Phe Glu Ala Ala Phe Thr Ser Ser  
65 70 75 80  
Ser Lys Ala Ala Ala Lys Ala Pro Gly Leu Val Pro Lys Leu Asp  
85 90 95  
Ala Ala Tyr Ser Val Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu  
100 105 110  
Ala Lys Phe Asp Ser Phe Val Ala Ser Leu Thr Glu Ala Leu Arg Val  
115 120 125  
Ile Ala Gly Ala Leu Glu Val His Ala Val Lys Pro Val Thr Glu Glu  
130 135 140  
Pro Gly Met Ala Lys Ile Pro Ala Gly Glu Leu Gln Ile Ile Asp Lys  
145 150 155 160  
Ile Asp Ala Ala Phe Lys Val Ala Ala Thr Ala Ala Ala Thr Ala Pro  
165 170 175  
Ala Asp Asp Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Lys Ala Ile  
180 185 190  
Lys Glu Ser Thr Gly Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser  
195 200 205  
Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala  
210 215 220  
Pro Gln Val Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile  
225 230 235 240  
Thr Ala Met Ser Glu Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala  
245 250 255

Ala Thr Val Ala Ala Gly Ala Ala Thr Thr Ala Ala Gly Ala Ala Ser  
 260 265 270

Gly Ala Ala Thr Val Ala Ala Gly Gly Tyr Lys Val  
 275 280

<210> 65

<211> 286

<212> PRT

<213> Phleum pratense

<400> 65

Ala Asp Leu Gly Tyr Gly Pro Ala Thr Pro Ala Ala Pro Ala Ala Gly  
 1 5 10 15

Tyr Thr Pro Ala Thr Pro Ala Ala Pro Ala Gly Ala Asp Ala Ala Gly  
 20 25 30

Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Lys Ile Asn Ala Gly  
 35 40 45

Phe Lys Ala Ala Leu Ala Gly Ala Gly Val Gln Pro Ala Asp Lys Tyr  
 50 55 60

Arg Thr Phe Val Ala Thr Phe Gly Pro Ala Ser Asn Lys Ala Phe Ala  
 65 70 75 80

Glu Gly Leu Ser Gly Glu Pro Lys Gly Ala Ala Glu Ser Ser Ser Lys  
 85 90 95

Ala Ala Leu Thr Ser Lys Leu Asp Ala Ala Tyr Lys Leu Ala Tyr Lys  
 100 105 110

Thr Ala Glu Gly Ala Thr Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala  
 115 120 125

Thr Leu Ser Glu Ala Leu Arg Ile Ile Ala Gly Thr Leu Glu Val His  
 130 135 140

Ala Val Lys Pro Ala Ala Glu Glu Val Lys Val Ile Pro Ala Gly Glu  
 145 150 155 160

Leu Gln Val Ile Glu Lys Val Asp Ala Ala Phe Lys Val Ala Ala Thr  
 165 170 175

Ala Ala Asn Ala Ala Pro Ala Asn Asp Lys Phe Thr Val Phe Glu Ala  
 180 185 190

Ala Phe Asn Asp Glu Ile Lys Ala Ser Thr Gly Gly Ala Tyr Glu Ser  
 195 200 205

Tyr Lys Phe Ile Pro Ala Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala  
 210 215 220

Ala Thr Val Ala Thr Ala Pro Glu Val Lys Tyr Thr Val Phe Glu Thr  
 225 230 235 240

## 5538-1010seqlisting.txt

Ala Leu Lys Lys Ala Ile Thr Ala Met Ser Glu Ala Gln Lys Ala Ala  
245 250 255

Lys Pro Ala Ala Ala Ala Thr Ala Thr Ala Thr Ala Ala Val Gly Ala  
260 265 270

Ala Thr Gly Ala Ala Thr Ala Ala Thr Gly Gly Tyr Lys Val  
275 280 285

<210> 66

<211> 281

<212> PRT

<213> Phleum pratense

<400> 66

Ala Val Pro Arg Arg Gly Pro Arg Gly Gly Pro Gly Arg Ser Tyr Ala  
1 5 10 15

Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala Gly Ala Glu  
20 25 30

Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Asp Ile Asn  
35 40 45

Val Gly Phe Lys Ala Ala Val Ala Ala Ala Ala Ser Val Pro Ala Gly  
50 55 60

Asp Lys Phe Lys Thr Phe Glu Ala Ala Phe Thr Ser Ser Ser Lys Ala  
65 70 75 80

Ala Thr Ala Lys Ala Pro Gly Leu Val Pro Lys Leu Asp Ala Ala Tyr  
85 90 95

Ser Val Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu Ala Lys Phe  
100 105 110

Asp Ser Phe Val Ala Ser Leu Thr Glu Ala Leu Arg Val Ile Ala Gly  
115 120 125

Ala Leu Glu Val His Ala Val Lys Pro Val Thr Glu Glu Pro Gly Met  
130 135 140

Ala Lys Ile Pro Ala Gly Glu Leu Gln Ile Ile Asp Lys Ile Asp Ala  
145 150 155 160

Ala Phe Lys Val Ala Ala Thr Ala Ala Ala Thr Ala Pro Ala Asp Asp  
165 170 175

Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Lys Ala Ile Lys Glu Ser  
180 185 190

Thr Gly Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser Leu Glu Ala  
195 200 205

Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala Pro Gln Val  
210 215 220

## 5538-1010seqlisting.txt

Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile Thr Ala Met  
 225 230 235 240  
 Ser Glu Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala Ala Thr Val  
 245 250 255  
 Ala Ala Gly Ala Ala Thr Thr Ala Thr Gly Ala Ala Ser Gly Ala Ala  
 260 265 270  
 Thr Val Ala Ala Gly Gly Tyr Lys Val  
 275 280

&lt;210&gt; 67

&lt;211&gt; 280

&lt;212&gt; PRT

&lt;213&gt; Phleum pratense

&lt;400&gt; 67

Met Ala Val Pro Arg Arg Gly Pro Arg Gly Gly Pro Gly Arg Ser Tyr  
 1 5 10 15  
 Thr Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala Gly Ala  
 20 25 30  
 Ala Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Asp Ile  
 35 40 45  
 Asn Val Gly Phe Lys Ala Ala Val Ala Ala Arg Gln Arg Pro Ala Ala  
 50 55 60  
 Asp Lys Phe Lys Thr Phe Glu Ala Ala Ser Pro Arg His Pro Arg Pro  
 65 70 75 80  
 Leu Arg Gln Gly Ala Gly Leu Val Pro Lys Leu Asp Ala Ala Tyr Ser  
 85 90 95  
 Val Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu Ala Lys Phe Asp  
 100 105 110  
 Ser Phe Val Ala Ser Leu Thr Glu Ala Leu Arg Val Ile Ala Gly Ala  
 115 120 125  
 Leu Glu Val His Ala Val Lys Pro Val Thr Glu Glu Pro Gly Met Ala  
 130 135 140  
 Lys Ile Pro Ala Gly Glu Leu Gln Ile Ile Asp Lys Ile Asp Ala Ala  
 145 150 155 160  
 Phe Lys Val Ala Ala Thr Ala Ala Ala Thr Ala Pro Ala Asp Asp Lys  
 165 170 175  
 Phe Thr Val Phe Glu Ala Ala Phe Asn Lys Ala Ile Lys Glu Ser Thr  
 180 185 190  
 Gly Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser Leu Glu Ala Ala  
 195 200 205

## 5538-1010seqlisting.txt

Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala Ala Glu Val Lys  
 210 215 220  
 Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile Thr Ala Met Ser  
 225 230 235 240  
 Glu Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala Ala Thr Val Ala  
 245 250 255  
 Ala Gly Ala Ala Thr Thr Ala Ala Gly Ala Ala Ser Gly Ala Ala Thr  
 260 265 270  
 Val Ala Ala Gly Gly Tyr Lys Val  
 275 280

&lt;210&gt; 68

&lt;211&gt; 312

&lt;212&gt; PRT

&lt;213&gt; Phleum pratense

&lt;400&gt; 68

Met Ala Val His Gln Tyr Thr Val Ala Leu Phe Leu Ala Val Ala Leu  
 1 5 10 15  
 Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Leu Gly Tyr Gly Pro  
 20 25 30  
 Ala Thr Pro Ala Ala Pro Ala Ala Gly Tyr Thr Pro Ala Thr Pro Ala  
 35 40 45  
 Ala Pro Ala Glu Ala Ala Pro Ala Gly Lys Ala Thr Thr Glu Glu Gln  
 50 55 60  
 Lys Leu Ile Glu Lys Ile Asn Ala Gly Phe Lys Ala Ala Leu Ala Ala  
 65 70 75 80  
 Ala Ala Gly Val Gln Pro Ala Asp Lys Tyr Arg Thr Phe Val Ala Thr  
 85 90 95  
 Phe Gly Ala Ala Ser Asn Lys Ala Phe Ala Glu Gly Leu Ser Gly Glu  
 100 105 110  
 Pro Lys Gly Ala Ala Glu Ser Ser Ser Lys Ala Ala Leu Thr Ser Lys  
 115 120 125  
 Leu Asp Ala Ala Tyr Lys Leu Ala Tyr Lys Thr Ala Glu Gly Ala Thr  
 130 135 140  
 Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala Thr Leu Ser Glu Ala Leu  
 145 150 155 160  
 Arg Ile Ile Ala Gly Thr Leu Glu Val His Ala Val Lys Pro Ala Ala  
 165 170 175  
 Glu Glu Val Lys Val Ile Pro Ala Gly Glu Leu Gln Val Ile Glu Lys  
 180 185 190

5538-1010seqlisting.txt

Val Asp Ala Ala Phe Lys Val Ala Ala Thr Ala Ala Asn Ala Ala Pro  
195 200 205  
Ala Asn Asp Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Asp Ala Ile  
210 215 220  
Lys Ala Ser Thr Gly Gly Ala Tyr Glu Ser Tyr Lys Phe Ile Pro Ala  
225 230 235 240  
Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Thr Ala  
245 250 255  
Pro Glu Val Lys Tyr Thr Val Phe Glu Thr Ala Leu Lys Lys Ala Ile  
260 265 270  
Thr Ala Met Ser Glu Ala Gln Lys Ala Ala Lys Pro Ala Ala Ala Ala  
275 280 285  
Thr Ala Thr Ala Thr Ala Ala Val Gly Ala Ala Thr Gly Ala Ala Thr  
290 295 300  
Ala Ala Thr Gly Gly Tyr Lys Val  
305 310

<210> 69

<211> 257

<212> PRT

<213> Phleum pratense

<400> 69

Glu Ala Pro Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu  
1 5 10 15  
Lys Ile Asn Ala Gly Phe Lys Ala Ala Leu Ala Arg Arg Leu Gln Pro  
20 25 30  
Ala Asp Lys Tyr Arg Thr Phe Val Ala Thr Phe Gly Pro Ala Ser Asn  
35 40 45  
Lys Ala Phe Ala Glu Gly Leu Ser Gly Glu Pro Lys Gly Ala Ala Glu  
50 55 60  
Ser Ser Ser Lys Ala Ala Leu Thr Ser Lys Leu Asp Ala Ala Tyr Lys  
65 70 75 80  
Leu Ala Tyr Lys Thr Ala Glu Gly Ala Thr Pro Glu Ala Lys Tyr Asp  
85 90 95  
Ala Tyr Val Ala Thr Leu Ser Glu Ala Leu Arg Ile Ile Ala Gly Thr  
100 105 110  
Leu Glu Val His Ala Val Lys Pro Ala Ala Glu Glu Val Lys Val Ile  
115 120 125  
Pro Ala Ala Glu Leu Gln Val Ile Glu Lys Val Asp Ala Ala Phe Lys  
130 135 140



5538-1010seqlisting.txt

Val Ala Ala Thr Ala Ala Asn Ala Ala Pro Ala Asn Asp Lys Phe Thr  
 145 150 155 160  
 Val Phe Glu Ala Ala Phe Asn Asp Glu Ile Lys Ala Ser Thr Gly Gly  
 165 170 175  
 Ala Tyr Glu Ser Tyr Lys Phe Ile Pro Ala Leu Glu Ala Ala Val Lys  
 180 185 190  
 Gln Ala Tyr Ala Ala Thr Val Ala Thr Ala Pro Glu Val Lys Tyr Thr  
 195 200 205  
 Val Phe Glu Thr Ala Leu Lys Lys Ala Ile Thr Ala Met Ser Glu Ala  
 210 215 220  
 Gln Lys Ala Ala Lys Pro Pro Pro Leu Pro Pro Pro Pro Gln Pro Pro  
 225 230 235 240  
 Pro Leu Ala Ala Thr Gly Ala Ala Thr Ala Ala Thr Gly Gly Tyr Lys  
 245 250 255

Val

<210> 70

<211> 312

<212> PRT

<213> Phleum pratense

<400> 70

Met Ala Val His Gln Tyr Thr Val Ala Leu Phe Leu Ala Val Ala Leu  
 1 5 10 15  
 Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Leu Gly Tyr Gly Pro  
 20 25 30  
 Ala Thr Pro Ala Ala Pro Ala Ala Gly Tyr Thr Pro Ala Thr Pro Ala  
 35 40 45  
 Ala Pro Ala Glu Ala Ala Pro Ala Gly Lys Ala Thr Thr Glu Glu Gln  
 50 55 60  
 Lys Leu Ile Glu Lys Ile Asn Ala Gly Phe Lys Ala Ala Leu Ala Ala  
 65 70 75 80  
 Ala Ala Gly Val Gln Pro Ala Asp Lys Tyr Arg Thr Phe Val Ala Thr  
 85 90 95  
 Phe Gly Ala Ala Ser Asn Lys Ala Phe Ala Glu Gly Leu Ser Gly Glu  
 100 105 110  
 Pro Lys Gly Ala Ala Glu Ser Ser Ser Lys Ala Ala Leu Thr Ser Lys  
 115 120 125  
 Leu Asp Ala Ala Tyr Lys Leu Ala Tyr Lys Thr Ala Glu Gly Ala Thr  
 130 135 140

## 5538-1010seqlisting.txt

Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala Thr Leu Ser Glu Ala Leu  
 145 150 155 160  
 Arg Ile Ile Ala Gly Thr Leu Glu Val His Ala Val Lys Pro Ala Ala  
 165 170 175  
 Glu Glu Val Lys Val Ile Pro Ala Gly Glu Leu Gln Val Ile Glu Lys  
 180 185 190  
 Val Asp Ala Ala Phe Lys Val Ala Ala Thr Ala Ala Asn Ala Ala Pro  
 195 200 205  
 Ala Asn Asp Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Asp Ala Ile  
 210 215 220  
 Lys Ala Ser Thr Gly Gly Ala Tyr Glu Ser Tyr Lys Phe Ile Pro Ala  
 225 230 235 240  
 Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Thr Ala  
 245 250 255  
 Pro Glu Val Lys Tyr Thr Val Phe Glu Thr Ala Leu Lys Lys Ala Ile  
 260 265 270  
 Thr Ala Met Ser Glu Ala Gln Lys Ala Ala Lys Pro Ala Ala Ala Ala  
 275 280 285  
 Thr Ala Thr Ala Thr Ala Ala Val Gly Ala Ala Thr Gly Ala Ala Thr  
 290 295 300  
 Ala Ala Thr Gly Gly Tyr Lys Val  
 305 310

&lt;210&gt; 71

&lt;211&gt; 280

&lt;212&gt; PRT

&lt;213&gt; Phleum pratense

&lt;400&gt; 71

Met Ala Val Pro Arg Arg Gly Pro Arg Gly Gly Pro Gly Arg Ser Tyr  
 1 5 10 15  
 Thr Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala Gly Ala  
 20 25 30  
 Ala Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Asp Ile  
 35 40 45  
 Asn Val Gly Phe Lys Ala Ala Val Ala Ala Arg Gln Arg Pro Ala Ala  
 50 55 60  
 Asp Lys Phe Lys Thr Phe Glu Ala Ala Ser Pro Arg His Pro Arg Pro  
 65 70 75 80  
 Leu Arg Gln Gly Ala Gly Leu Val Pro Lys Leu Asp Ala Ala Tyr Ser  
 85 90 95

5538-1010seqlisting.txt

Val Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu Ala Lys Phe Asp  
100 105 110  
Ser Phe Val Ala Ser Leu Thr Glu Ala Leu Arg Val Ile Ala Gly Ala  
115 120 125  
Leu Glu Val His Ala Val Lys Pro Val Thr Glu Glu Pro Gly Met Ala  
130 135 140  
Lys Ile Pro Ala Gly Glu Leu Gln Ile Ile Asp Lys Ile Asp Ala Ala  
145 150 155 160  
Phe Lys Val Ala Ala Thr Ala Ala Ala Thr Ala Pro Ala Asp Asp Lys  
165 170 175  
Phe Thr Val Phe Glu Ala Ala Phe Asn Lys Ala Ile Lys Glu Ser Thr  
180 185 190  
Gly Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser Leu Glu Ala Ala  
195 200 205  
Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala Glu Val Lys  
210 215 220  
Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile Thr Ala Met Ser  
225 230 235 240  
Glu Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala Ala Thr Val Ala  
245 250 255  
Ala Gly Ala Ala Thr Thr Ala Ala Gly Ala Ala Ser Gly Ala Ala Thr  
260 265 270  
Val Ala Ala Gly Gly Tyr Lys Val  
275 280

<210> 72

<211> 285

<212> PRT

<213> Phleum pratense

<400> 72

Ala Asp Leu Gly Tyr Gly Pro Ala Thr Pro Ala Ala Pro Ala Ala Gly  
1 5 10 15  
Tyr Thr Pro Ala Thr Pro Ala Ala Pro Ala Gly Ala Asp Ala Ala Gly  
20 25 30  
Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Lys Ile Asn Ala Gly  
35 40 45  
Phe Lys Ala Ala Leu Ala Gly Ala Gly Val Gln Pro Ala Asp Lys Tyr  
50 55 60  
Arg Thr Phe Val Ala Thr Phe Gly Pro Ala Ser Asn Lys Ala Phe Ala  
65 70 75 80

5538-1010seqlisting.txt

Glu Gly Leu Ser Gly Glu Pro Lys Gly Ala Ala Glu Ser Ser Ser Lys  
85 90  
Ala Ala Leu Thr Ser Lys Leu Asp Ala Ala Tyr Lys Leu Ala Tyr Lys  
100 105 110  
Thr Ala Glu Gly Ala Thr Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala  
115 120 125  
Thr Leu Ser Glu Ala Leu Arg Ile Ile Ala Gly Thr Leu Glu Val His  
130 135 140  
Ala Val Lys Pro Ala Ala Glu Glu Val Lys Val Ile Pro Ala Gly Glu  
145 150 155 160  
Leu Gln Val Ile Glu Lys Val Asp Ala Ala Phe Lys Val Ala Ala Thr  
165 170 175  
Ala Ala Asn Ala Ala Pro Ala Asn Asp Lys Phe Thr Val Phe Glu Ala  
180 185 190  
Ala Phe Asn Asp Glu Ile Lys Ala Ser Thr Gly Gly Ala Tyr Glu Ser  
195 200 205  
Tyr Lys Phe Ile Pro Ala Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala  
210 215 220  
Ala Thr Val Ala Thr Ala Pro Glu Val Lys Tyr Thr Val Phe Glu Thr  
225 230 235 240  
Ala Leu Lys Lys Ala Ile Thr Ala Met Ser Glu Ala Gln Lys Ala Ala  
245 250 255  
Lys Pro Pro Pro Leu Pro Pro Pro Pro Gln Pro Pro Pro Leu Ala Ala  
260 265 270  
Thr Gly Ala Ala Thr Ala Ala Thr Gly Gly Tyr Lys Val  
275 280 285

<210> 73

<211> 312

<212> PRT

<213> Phleum pratense

<400> 73

Met Ala Val His Gln Tyr Thr Val Ala Leu Phe Leu Ala Val Ala Leu  
1 5 10 15  
Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Leu Gly Tyr Gly Pro  
20 25 30  
Ala Thr Pro Ala Ala Pro Ala Ala Gly Tyr Thr Pro Ala Thr Pro Ala  
35 40 45  
Ala Pro Ala Glu Ala Ala Pro Ala Gly Lys Ala Thr Thr Glu Glu Gln  
50 55 60

## 5538-1010seqlisting.txt

Lys Leu Ile Glu Lys Ile Asn Ala Gly Phe Lys Ala Ala Leu Ala Ala  
 65 70 75 80  
 Ala Ala Gly Val Gln Pro Ala Asp Lys Tyr Arg Thr Phe Val Ala Thr  
 85 90 95  
 Phe Gly Ala Ala Ser Asn Lys Ala Phe Ala Glu Gly Leu Ser Gly Glu  
 100 105 110  
 Pro Lys Gly Ala Ala Glu Ser Ser Ser Lys Ala Ala Leu Thr Ser Lys  
 115 120 125  
 Leu Asp Ala Ala Tyr Lys Leu Ala Tyr Lys Thr Ala Glu Gly Ala Thr  
 130 135 140  
 Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala Thr Leu Ser Glu Ala Leu  
 145 150 155 160  
 Arg Ile Ile Ala Gly Thr Leu Glu Val His Ala Val Lys Pro Ala Ala  
 165 170 175  
 Glu Glu Val Lys Val Ile Pro Ala Gly Glu Leu Gln Val Ile Glu Lys  
 180 185 190  
 Val Asp Ala Ala Phe Lys Val Ala Ala Thr Ala Ala Asn Ala Ala Pro  
 195 200 205  
 Ala Asn Asp Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Asp Ala Ile  
 210 215 220  
 Lys Ala Ser Thr Gly Gly Ala Tyr Glu Ser Tyr Lys Phe Ile Pro Ala  
 225 230 235 240  
 Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Thr Ala  
 245 250 255  
 Pro Glu Val Lys Tyr Thr Val Phe Glu Thr Ala Leu Lys Lys Ala Ile  
 260 265 270  
 Thr Ala Met Ser Glu Ala Gln Lys Ala Ala Lys Pro Ala Ala Ala Ala  
 275 280 285  
 Thr Ala Thr Ala Thr Ala Ala Val Gly Ala Ala Thr Gly Ala Ala Thr  
 290 295 300  
 Ala Ala Thr Gly Gly Tyr Lys Val  
 305 310

&lt;210&gt; 74

&lt;211&gt; 138

&lt;212&gt; PRT

&lt;213&gt; Phleum pratense

&lt;400&gt; 74

Met Ala Ala His Lys Phe Met Val Ala Met Phe Leu Ala Val Ala Val  
 1 5 10 15

5538-1010seqlisting.txt

Val Leu Gly Leu Ala Thr Ser Pro Thr Ala Glu Gly Gly Lys Ala Thr  
20 25 30  
Thr Glu Glu Gln Lys Leu Ile Glu Asp Val Asn Ala Ser Phe Arg Ala  
35 40 45  
Ala Met Ala Thr Thr Ala Asn Val Pro Pro Ala Asp Lys Tyr Lys Thr  
50 55 60  
Phe Glu Ala Ala Phe Thr Val Ser Ser Lys Arg Asn Leu Ala Asp Ala  
65 70 75 80  
Val Ser Lys Ala Pro Gln Leu Val Pro Lys Leu Asp Glu Val Tyr Asn  
85 90 95  
Ala Ala Tyr Asn Ala Ala Asp His Ala Ala Pro Glu Asp Lys Tyr Glu  
100 105 110  
Ala Phe Val Leu His Phe Ser Glu Ala Leu Arg Ile Ile Ala Gly Thr  
115 120 125  
Pro Glu Val His Ala Val Lys Pro Gly Ala  
130 135

<210> 75

<211> 57

<212> PRT

<213> Phleum pratense

<400> 75

Ser Lys Ala Pro Gln Leu Val Pro Lys Leu Asp Glu Val Tyr Asn Ala  
1 5 10 15  
Ala Tyr Asn Ala Ala Asp His Ala Ala Pro Glu Asp Lys Tyr Glu Ala  
20 25 30  
Phe Val Leu His Phe Ser Glu Ala Leu His Ile Ile Ala Gly Thr Pro  
35 40 45  
Glu Val His Ala Val Lys Pro Gly Ala  
50 55

<210> 76

<211> 80

<212> PRT

<213> Phleum pratense

<400> 76

Ala Asp Lys Tyr Lys Thr Phe Glu Ala Ala Phe Thr Val Ser Ser Lys  
1 5 10 15

## 5538-1010seqlisting.txt

Arg Asn Leu Ala Asp Ala Val Ser Lys Ala Pro Gln Leu Val Pro Lys  
20 25 30

Leu Asp Glu Val Tyr Asn Ala Ala Tyr Asn Ala Ala Asp His Ala Ala  
35 40 45

Pro Glu Asp Lys Tyr Glu Ala Phe Val Leu His Phe Ser Glu Ala Leu  
50 55 60

His Ile Ile Ala Gly Thr Pro Glu Val His Ala Val Lys Pro Gly Ala  
65 70 75 80

<210> 77

<211> 106

<212> PRT

<213> Phleum pratense

<400> 77

Thr Glu Glu Gln Lys Leu Ile Glu Asp Val Asn Ala Ser Phe Arg Ala  
1 5 10 15

Ala Met Ala Thr Thr Ala Asn Val Pro Pro Ala Asp Lys Tyr Lys Thr  
20 25 30

Leu Glu Ala Ala Phe Thr Val Ser Ser Lys Arg Asn Leu Ala Asp Ala  
35 40 45

Val Ser Lys Ala Pro Gln Leu Val Pro Lys Leu Asp Glu Val Tyr Asn  
50 55 60

Ala Ala Tyr Asn Ala Ala Asp His Ala Ala Pro Glu Asp Lys Tyr Glu  
65 70 75 80

Ala Phe Val Leu His Phe Ser Glu Ala Leu Arg Ile Ile Ala Gly Thr  
85 90 95

Pro Glu Val His Ala Val Lys Pro Gly Ala  
100 105

<210> 78

<211> 138

<212> PRT

<213> Phleum pratense

<400> 78

Met Ala Ala His Lys Phe Met Val Ala Met Phe Leu Ala Val Ala Val  
1 5 10 15

Val Leu Gly Leu Ala Thr Ser Pro Thr Ala Glu Gly Gly Lys Ala Thr  
20 25 30

## 5538-1010seqlisting.txt

Thr Glu Glu Gln Lys Leu Ile Glu Asp Ile Asn Ala Ser Phe Arg Ala  
 35 40 45  
 Ala Met Ala Thr Thr Ala Asn Val Pro Pro Ala Asp Lys Tyr Lys Thr  
 50 55 60  
 Phe Glu Ala Ala Phe Thr Val Ser Ser Lys Arg Asn Leu Ala Asp Ala  
 65 70 75 80  
 Val Ser Lys Ala Pro Gln Leu Val Pro Lys Leu Asp Glu Val Tyr Asn  
 85 90 95  
 Ala Ala Tyr Asn Ala Ala Asp His Ala Ala Pro Glu Asp Lys Tyr Glu  
 100 105 110  
 Ala Phe Val Leu His Phe Ser Glu Ala Leu His Ile Ile Ala Gly Thr  
 115 120 125  
 Pro Glu Val His Ala Val Lys Pro Gly Ala  
 130 135

&lt;210&gt; 79

&lt;211&gt; 132

&lt;212&gt; PRT

&lt;213&gt; Phleum pratense

&lt;400&gt; 79

Met Val Ala Met Phe Leu Ala Val Ala Val Val Leu Gly Leu Ala Thr  
 1 5 10 15  
 Ser Pro Thr Ala Glu Gly Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu  
 20 25 30  
 Ile Glu Asp Val Asn Ala Ser Phe Arg Ala Ala Met Ala Thr Thr Ala  
 35 40 45  
 Asn Val Pro Pro Ala Asp Lys Tyr Lys Thr Phe Glu Ala Ala Phe Thr  
 50 55 60  
 Val Ser Ser Lys Arg Asn Leu Ala Asp Ala Val Ser Lys Ala Pro Gln  
 65 70 75 80  
 Leu Val Pro Lys Leu Asp Glu Val Tyr Asn Ala Ala Tyr Asn Ala Ala  
 85 90 95  
 Asp His Ala Ala Pro Glu Asp Lys Tyr Glu Ala Phe Val Leu His Phe  
 100 105 110  
 Ser Glu Ala Leu Arg Ile Ile Ala Gly Thr Pro Glu Val His Ala Val  
 115 120 125  
 Lys Pro Gly Ala  
 130

&lt;210&gt; 80

&lt;211&gt; 78



5538-1010seqlisting.txt

<212> PRT

<213> Phleum pratense

<400> 80

Met Ala Asp Asp Met Glu Arg Ile Phe Lys Arg Phe Asp Thr Asn Gly  
 1 5 10 15  
 Asp Gly Lys Ile Ser Leu Ser Glu Leu Thr Asp Ala Leu Arg Thr Leu  
 20 25 30  
 Gly Ser Thr Ser Ala Asp Glu Val Gln Arg Met Met Ala Glu Ile Asp  
 35 40 45  
 Thr Asp Gly Asp Gly Phe Ile Asp Phe Asn Glu Phe Ile Ser Phe Cys  
 50 55 60  
 Asn Ala Asn Pro Gly Leu Met Lys Asp Val Ala Lys Val Phe  
 65 70 75

<210> 81

<211> 131

<212> PRT

<213> Phleum pratense

<400> 81

Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Glu Ile Glu  
 1 5 10 15  
 Gly His His Leu Ala Ser Ala Ala Ile Leu Gly His Asp Gly Thr Val  
 20 25 30  
 Trp Ala Gln Ser Ala Asp Phe Pro Gln Phe Lys Pro Glu Glu Ile Thr  
 35 40 45  
 Gly Ile Met Lys Asp Phe Asp Glu Pro Gly His Leu Ala Pro Thr Gly  
 50 55 60  
 Met Phe Val Ala Gly Ala Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
 65 70 75 80  
 Arg Val Ile Arg Gly Lys Lys Gly Ala Gly Gly Ile Thr Ile Lys Lys  
 85 90 95  
 Thr Gly Gln Ala Leu Val Val Gly Ile Tyr Asp Glu Pro Met Thr Pro  
 100 105 110  
 Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Val Glu  
 115 120 125  
 Gln Gly Met  
 130

&lt;210&gt; 82

&lt;211&gt; 227

&lt;212&gt; PRT

<213> *Vespula vulgaris*

&lt;400&gt; 82

```

Met Glu Ile Ser Gly Leu Val Tyr Leu Ile Ile Ile Val Thr Ile Ile
1      5      10
Asp Leu Pro Tyr Gly Lys Ala Asn Asn Tyr Cys Lys Ile Lys Cys Leu
20      25      30
Lys Gly Gly Val His Thr Ala Cys Lys Tyr Gly Ser Leu Lys Pro Asn
35      40      45
Cys Gly Asn Lys Val Val Val Ser Tyr Gly Leu Thr Lys Gln Glu Lys
50      55      60
Gln Asp Ile Leu Lys Glu His Asn Asp Phe Arg Gln Lys Ile Ala Arg
65      70      75      80
Gly Leu Glu Thr Arg Gly Asn Pro Gly Pro Gln Pro Pro Ala Lys Asn
85      90      95
Met Lys Asn Leu Val Trp Asn Asp Glu Leu Ala Tyr Val Ala Gln Val
100      105      110
Trp Ala Asn Gln Cys Gln Tyr Gly His Asp Thr Cys Arg Asp Val Ala
115      120      125
Lys Tyr Gln Val Gly Gln Asn Val Ala Leu Thr Gly Ser Thr Ala Ala
130      135      140
Lys Tyr Asp Asp Pro Val Lys Leu Val Lys Met Trp Glu Asp Glu Val
145      150      155      160
Lys Asp Tyr Asn Pro Lys Lys Lys Phe Ser Gly Asn Asp Phe Leu Lys
165      170      175
Thr Gly His Tyr Thr Gln Met Val Trp Ala Asn Thr Lys Glu Val Gly
180      185      190
Cys Gly Ser Ile Lys Tyr Ile Gln Glu Lys Trp His Lys His Tyr Leu
195      200      205
Val Cys Asn Tyr Gly Pro Ser Gly Asn Phe Met Asn Glu Glu Leu Tyr
210      215      220

```

Gln Thr Lys  
225

&lt;210&gt; 83

&lt;211&gt; 300

&lt;212&gt; PRT

<213> *Vesputula maculifrons*

&lt;400&gt; 83

Gly Pro Lys Cys Pro Phe Asn Ser Asp Thr Val Ser Ile Ile Ile Glu  
 1 5 10 15  
 Thr Arg Glu Asn Arg Asn Arg Asp Leu Tyr Thr Leu Gln Thr Leu Gln  
 20 25 30  
 Asn His Pro Glu Phe Lys Lys Lys Thr Ile Thr Arg Pro Val Val Phe  
 35 40 45  
 Ile Thr His Gly Phe Thr Ser Ser Ala Ser Glu Lys Asn Phe Ile Asn  
 50 55 60  
 Leu Ala Lys Ala Leu Val Asp Lys Asp Asn Tyr Met Val Ile Ser Ile  
 65 70 75 80  
 Asp Trp Gln Thr Ala Ala Cys Thr Asn Glu Tyr Pro Gly Leu Lys Tyr  
 85 90 95  
 Ala Tyr Tyr Pro Thr Ala Ala Ser Asn Thr Arg Leu Val Gly Gln Tyr  
 100 105 110  
 Ile Ala Thr Ile Thr Gln Lys Leu Val Lys Asp Tyr Lys Ile Ser Met  
 115 120 125  
 Ala Asn Ile Arg Leu Ile Gly His Ser Leu Gly Ala His Val Ser Gly  
 130 135 140  
 Phe Ala Gly Lys Arg Val Gln Glu Leu Lys Leu Gly Lys Tyr Ser Glu  
 145 150 155 160  
 Ile Ile Gly Leu Asp Pro Ala Arg Pro Ser Phe Asp Ser Asn His Cys  
 165 170 175  
 Ser Glu Arg Leu Cys Glu Thr Asp Ala Glu Tyr Val Gln Ile Ile His  
 180 185 190  
 Thr Ser Asn Tyr Leu Gly Thr Glu Lys Ile Leu Gly Thr Val Asp Phe  
 195 200 205  
 Tyr Met Asn Asn Gly Lys Asn Asn Pro Gly Cys Gly Arg Phe Phe Ser  
 210 215 220  
 Glu Val Cys Ser His Thr Arg Ala Val Ile Tyr Met Ala Glu Cys Ile  
 225 230 235 240  
 Lys His Glu Cys Cys Leu Ile Gly Ile Pro Arg Ser Lys Ser Ser Gln  
 245 250 255  
 Pro Ile Ser Arg Cys Thr Lys Gln Glu Cys Val Cys Val Gly Leu Asn  
 260 265 270  
 Ala Lys Lys Tyr Pro Ser Arg Gly Ser Phe Tyr Val Pro Val Glu Ser  
 275 280 285  
 Thr Ala Pro Phe Cys Asn Asn Lys Gly Lys Ile Ile  
 290 295 300

&lt;210&gt; 84

&lt;211&gt; 336

&lt;212&gt; PRT

<213> *Vespula vulgaris*

&lt;400&gt; 84

```

Met Glu Glu Asn Met Asn Leu Lys Tyr Leu Leu Leu Phe Val Tyr Phe
 1      5      10      15
Val Gln Val Leu Asn Cys Cys Tyr Gly His Gly Asp Pro Leu Ser Tyr
 20      25      30
Glu Leu Asp Arg Gly Pro Lys Cys Pro Phe Asn Ser Asp Thr Val Ser
 35      40      45
Ile Ile Ile Glu Thr Arg Glu Asn Arg Asn Arg Asp Leu Tyr Thr Leu
 50      55      60
Gln Thr Leu Gln Asn His Pro Glu Phe Lys Lys Lys Thr Ile Thr Arg
 65      70      75      80
Pro Val Val Phe Ile Thr His Gly Phe Thr Ser Ser Ala Ser Glu Thr
 85      90      95
Asn Phe Ile Asn Leu Ala Lys Ala Leu Val Asp Lys Asp Asn Tyr Met
100      105      110
Val Ile Ser Ile Asp Trp Gln Thr Ala Ala Cys Thr Asn Glu Ala Ala
115      120      125
Gly Leu Lys Tyr Leu Tyr Tyr Pro Thr Ala Ala Arg Asn Thr Arg Leu
130      135      140
Val Gly Gln Tyr Ile Ala Thr Ile Thr Gln Lys Leu Val Lys His Tyr
145      150      155      160
Lys Ile Ser Met Ala Asn Ile Arg Leu Ile Gly His Ser Leu Gly Ala
165      170      175
His Ala Ser Gly Phe Ala Gly Lys Lys Val Gln Glu Leu Lys Leu Gly
180      185      190
Lys Tyr Ser Glu Ile Ile Gly Leu Asp Pro Ala Arg Pro Ser Phe Asp
195      200      205
Ser Asn His Cys Ser Glu Arg Leu Cys Glu Thr Asp Ala Glu Tyr Val
210      215      220
Gln Ile Ile His Thr Ser Asn Tyr Leu Gly Thr Glu Lys Thr Leu Gly
225      230      235      240
Thr Val Asp Phe Tyr Met Asn Asn Gly Lys Asn Gln Pro Gly Cys Gly
245      250      255
Arg Phe Phe Ser Glu Val Cys Ser His Ser Arg Ala Val Ile Tyr Met
260      265      270

```

## 5538-1010seqlisting.txt

Ala Glu Cys Ile Lys His Glu Cys Cys Leu Ile Gly Ile Pro Lys Ser  
 275 280 285  
 Lys Ser Ser Gln Pro Ile Ser Ser Cys Thr Lys Gln Glu Cys Val Cys  
 290 295 300  
 Val Gly Leu Asn Ala Lys Lys Tyr Pro Ser Arg Gly Ser Phe Tyr Val  
 305 310 315 320  
 Pro Val Glu Ser Thr Ala Pro Phe Cys Asn Asn Lys Gly Lys Ile Ile  
 325 330 335

&lt;210&gt; 85

&lt;211&gt; 331

&lt;212&gt; PRT

<213> *Vespula vulgaris*

&lt;400&gt; 85

Ser Glu Arg Pro Lys Arg Val Phe Asn Ile Tyr Trp Asn Val Pro Thr  
 1 5 10 15  
 Phe Met Cys His Gln Tyr Asp Leu Tyr Phe Asp Glu Val Thr Asn Phe  
 20 25 30  
 Asn Ile Lys Arg Asn Ser Lys Asp Asp Phe Gln Gly Asp Lys Ile Ala  
 35 40 45  
 Ile Phe Tyr Asp Pro Gly Glu Phe Pro Ala Leu Leu Ser Leu Lys Asp  
 50 55 60  
 Gly Lys Tyr Lys Lys Arg Asn Gly Gly Val Pro Gln Glu Gly Asn Ile  
 65 70 75 80  
 Thr Ile His Leu Gln Lys Phe Ile Glu Asn Leu Asp Lys Ile Tyr Pro  
 85 90 95  
 Asn Arg Asn Phe Ser Gly Ile Gly Val Ile Asp Phe Glu Arg Trp Arg  
 100 105 110  
 Pro Ile Phe Arg Gln Asn Trp Gly Asn Met Lys Ile His Lys Asn Phe  
 115 120 125  
 Ser Ile Asp Leu Val Arg Asn Glu His Pro Thr Trp Asn Lys Lys Met  
 130 135 140  
 Ile Glu Leu Glu Ala Ser Lys Arg Phe Glu Lys Tyr Ala Arg Phe Phe  
 145 150 155 160  
 Met Glu Glu Thr Leu Lys Leu Ala Lys Lys Thr Arg Lys Gln Ala Asp  
 165 170 175  
 Trp Gly Tyr Tyr Gly Tyr Pro Tyr Cys Phe Asn Met Ser Pro Asn Asn  
 180 185 190  
 Leu Val Pro Glu Cys Asp Val Thr Ala Met His Glu Asn Asp Lys Met  
 195 200 205

## 5538-1010seqlisting.txt

Ser Trp Leu Phe Asn Asn Gln Asn Val Leu Leu Pro Ser Val Tyr Val  
 210 215 220  
 Arg Gln Glu Leu Thr Pro Asp Gln Arg Ile Gly Leu Val Gln Gly Arg  
 225 230 235 240  
 Val Lys Glu Ala Val Arg Ile Ser Asn Asn Leu Lys His Ser Pro Lys  
 245 250 255  
 Val Leu Ser Tyr Trp Trp Tyr Val Tyr Gln Asp Glu Thr Asn Thr Phe  
 260 265 270  
 Leu Thr Glu Thr Asp Val Lys Lys Thr Phe Gln Glu Ile Val Ile Asn  
 275 280 285  
 Gly Gly Asp Gly Ile Ile Ile Trp Gly Ser Ser Ser Asp Val Asn Ser  
 290 295 300  
 Leu Ser Lys Cys Lys Arg Leu Gln Asp Tyr Leu Leu Thr Val Leu Gly  
 305 310 315 320  
 Pro Ile Ala Ile Asn Val Thr Glu Ala Val Asn  
 325 330

&lt;210&gt; 86

&lt;211&gt; 206

&lt;212&gt; PRT

<213> *Vespula vidua*

&lt;400&gt; 86

Lys Val Asn Tyr Cys Lys Ile Lys Cys Leu Lys Gly Gly Val His Thr  
 1 5 10 15  
 Ala Cys Lys Tyr Gly Thr Ser Thr Lys Pro Asn Cys Gly Lys Met Val  
 20 25 30  
 Val Lys Ala Tyr Gly Leu Thr Glu Ala Glu Lys Gln Glu Ile Leu Lys  
 35 40 45  
 Val His Asn Asp Phe Arg Gln Lys Val Ala Lys Gly Leu Glu Thr Arg  
 50 55 60  
 Gly Asn Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Asn Asn Leu Val  
 65 70 75 80  
 Trp Asn Asp Glu Leu Ala Asn Ile Ala Gln Val Trp Ala Ser Gln Cys  
 85 90 95  
 Asn Tyr Gly His Asp Thr Cys Lys Asp Thr Glu Lys Tyr Pro Val Gly  
 100 105 110  
 Gln Asn Ile Ala Lys Arg Ser Thr Thr Ala Ala Leu Phe Asp Ser Pro  
 115 120 125  
 Gly Lys Leu Val Lys Met Trp Glu Asn Glu Val Lys Asp Phe Asn Pro  
 130 135 140

5538-1010seqlisting.txt

Asn Ile Glu Trp Ser Lys Asn Asn Leu Lys Lys Thr Gly His Tyr Thr  
145 150 155 160

Gln Met Val Trp Ala Lys Thr Lys Glu Ile Gly Cys Gly Ser Val Lys  
165 170 175

Tyr Val Lys Asp Glu Trp Tyr Thr His Tyr Leu Val Cys Asn Tyr Gly  
180 185 190

Pro Ser Gly Asn Phe Arg Asn Glu Lys Leu Tyr Glu Lys Lys  
195 200 205

<210> 87

<211> 160

<212> PRT

<213> Betula pendula

<400> 87

Met Gly Val Phe Asn Tyr Glu Thr Glu Thr Thr Ser Val Ile Pro Ala  
1 5 10 15

Ala Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Phe Pro  
20 25 30

Lys Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn  
35 40 45

Gly Gly Pro Gly Thr Ile Lys Lys Ile Ser Phe Pro Glu Gly Phe Pro  
50 55 60

Phe Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe  
65 70 75 80

Lys Tyr Asn Tyr Ser Val Ile Glu Gly Gly Pro Ile Gly Asp Thr Leu  
85 90 95

Glu Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Gly  
100 105 110

Ser Ile Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asp His Glu  
115 120 125

Val Lys Ala Glu Gln Val Lys Ala Ser Lys Glu Met Gly Glu Thr Leu  
130 135 140

Leu Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn  
145 150 155 160

<210> 88

<211> 133

<212> PRT

<213> Betula pendula

## 5538-1010seqlisting.txt

&lt;400&gt; 88

Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Asp Ile Asp  
 1 5 10 15  
 Gly Gln Ala Ser Asn Ser Leu Ala Ser Ala Ile Val Gly His Asp Gly  
 20 25 30  
 Ser Val Trp Ala Gln Ser Ser Ser Phe Pro Gln Phe Lys Pro Gln Glu  
 35 40 45  
 Ile Thr Gly Ile Met Lys Asp Phe Glu Glu Pro Gly His Leu Ala Pro  
 50 55 60  
 Thr Gly Leu His Leu Gly Gly Ile Lys Tyr Met Val Ile Gln Gly Glu  
 65 70 75 80  
 Ala Gly Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Ile  
 85 90 95  
 Lys Lys Thr Gly Gln Ala Leu Val Phe Gly Ile Tyr Glu Glu Pro Val  
 100 105 110  
 Thr Pro Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu  
 115 120 125  
 Ile Asp Gln Gly Leu  
 130

&lt;210&gt; 89

&lt;211&gt; 205

&lt;212&gt; PRT

&lt;213&gt; Betula pendula

&lt;400&gt; 89

Met Pro Cys Ser Thr Glu Ala Met Glu Lys Ala Gly His Gly His Ala  
 1 5 10 15  
 Ser Thr Pro Arg Lys Arg Ser Leu Ser Asn Ser Ser Phe Arg Leu Arg  
 20 25 30  
 Ser Glu Ser Leu Asn Thr Leu Arg Leu Arg Arg Ile Phe Asp Leu Phe  
 35 40 45  
 Asp Lys Asn Ser Asp Gly Ile Ile Thr Val Asp Glu Leu Ser Arg Ala  
 50 55 60  
 Leu Asn Leu Leu Gly Leu Glu Thr Asp Leu Ser Glu Leu Glu Ser Thr  
 65 70 75 80  
 Val Lys Ser Phe Thr Arg Glu Gly Asn Ile Gly Leu Gln Phe Glu Asp  
 85 90 95  
 Phe Ile Ser Leu His Gln Ser Leu Asn Asp Ser Tyr Phe Ala Tyr Gly  
 100 105 110



5538-1010seqlisting.txt

Gly Glu Asp Glu Asp Asp Asn Glu Glu Asp Met Arg Lys Ser Ile Leu  
 115 120  
 Ser Gln Glu Glu Ala Asp Ser Phe Gly Gly Phe Lys Val Phe Asp Glu  
 130 135 140  
 Asp Gly Asp Gly Tyr Ile Ser Ala Arg Glu Leu Gln Met Val Leu Gly  
 145 150 155 160  
 Lys Leu Gly Phe Ser Glu Gly Ser Glu Ile Asp Arg Val Glu Lys Met  
 165 170 175  
 Ile Val Ser Val Asp Ser Asn Arg Asp Gly Arg Val Asp Phe Phe Glu  
 180 185 190  
 Phe Lys Asp Met Met Arg Ser Val Leu Val Arg Ser Ser  
 195 200 205

<210> 90

<211> 85

<212> PRT

<213> Betula pendula

<400> 90

Met Ala Asp Asp His Pro Gln Asp Lys Ala Glu Arg Glu Arg Ile Phe  
 1 5 10 15  
 Lys Arg Phe Asp Ala Asn Gly Asp Gly Lys Ile Ser Ala Ala Glu Leu  
 20 25 30  
 Gly Glu Ala Leu Lys Thr Leu Gly Ser Ile Thr Pro Asp Glu Val Lys  
 35 40 45  
 His Met Met Ala Glu Ile Asp Thr Asp Gly Asp Gly Phe Ile Ser Phe  
 50 55 60  
 Gln Glu Phe Thr Asp Phe Gly Arg Ala Asn Arg Gly Leu Leu Lys Asp  
 65 70 75 80  
 Val Ala Lys Ile Phe  
 85

<210> 91

<211> 24

<212> PRT

<213> Quercus alba

<220>

<221> misc\_feature

<223> X is unknown amino acid

&lt;400&gt; 91

Gly Val Phe Thr Xaa Glu Ser Gln Glu Thr Ser Val Ile Ala Pro Ala  
 1 5 10 15

Xaa Leu Phe Lys Ala Leu Phe Leu  
 20

&lt;210&gt; 92

&lt;211&gt; 40

&lt;212&gt; PRT

&lt;213&gt; Carpinus betulus

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; X is unknown amino acid

&lt;400&gt; 92

Gly Val Phe Asn Tyr Glu Ala Glu Thr Pro Ser Val Ile Pro Ala Ala  
 1 5 10 15

Arg Leu Phe Lys Ser Tyr Val Leu Asp Gly Asp Lys Leu Ile Pro Lys  
 20 25 30

Val Ala Pro Gln Ala Ile Xaa Lys  
 35 40

&lt;210&gt; 93

&lt;211&gt; 44

&lt;212&gt; PRT

&lt;213&gt; Alnus glutinosa

&lt;400&gt; 93

Gly Val Phe Asn Tyr Glu Ala Glu Thr Pro Ser Val Ile Pro Ala Ala  
 1 5 10 15

Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Lys Leu Leu Pro Lys  
 20 25 30

Val Ala Pro Glu Ala Val Ser Ser Val Glu Asn Ile  
 35 40

&lt;210&gt; 94

## 5538-1010seqlisting.txt

&lt;211&gt; 110

&lt;212&gt; PRT

&lt;213&gt; Betula pendula

&lt;400&gt; 94

Val Gln Cys Met Gln Val Trp Pro Pro Leu Gly Leu Lys Lys Phe Glu  
 1 5 10 15  
 Thr Leu Ser Tyr Leu Pro Pro Leu Ser Ser Glu Gln Leu Ala Lys Glu  
 20 25 30  
 Val Asp Tyr Leu Leu Arg Lys Asn Leu Ile Pro Cys Leu Glu Phe Glu  
 35 40 45  
 Leu Glu His Gly Phe Val Tyr Arg Glu His Asn Arg Ser Pro Gly Tyr  
 50 55 60  
 Tyr Asp Gly Arg Tyr Trp Thr Met Trp Lys Leu Pro Met Phe Gly Cys  
 65 70 75 80  
 Asn Asp Ser Ser Gln Val Leu Lys Glu Leu Glu Glu Cys Lys Lys Ala  
 85 90 95  
 Tyr Pro Ser Ala Phe Ile Arg Ile Ile Gly Phe Asp Asp Lys  
 100 105 110

&lt;210&gt; 95

&lt;211&gt; 626

&lt;212&gt; PRT

&lt;213&gt; Arachis hypogaea

&lt;400&gt; 95

Met Arg Gly Arg Val Ser Pro Leu Met Leu Leu Leu Gly Ile Leu Val  
 1 5 10 15  
 Leu Ala Ser Val Ser Ala Thr His Ala Lys Ser Ser Pro Tyr Gln Lys  
 20 25 30  
 Lys Thr Glu Asn Pro Cys Ala Gln Arg Cys Leu Gln Ser Cys Gln Gln  
 35 40 45  
 Glu Pro Asp Asp Leu Lys Gln Lys Ala Cys Glu Ser Arg Cys Thr Lys  
 50 55 60  
 Leu Glu Tyr Asp Pro Arg Cys Val Tyr Asp Pro Arg Gly His Thr Gly  
 65 70 75 80  
 Thr Thr Asn Gln Arg Ser Pro Pro Gly Glu Arg Thr Arg Gly Arg Gln  
 85 90 95  
 Pro Gly Asp Tyr Asp Asp Asp Arg Arg Gln Pro Arg Arg Glu Glu Gly  
 100 105 110

## 5538-1010seqlisting.txt

Gly Arg Trp Gly Pro Ala Gly Pro Arg Glu Arg Glu Arg Glu Glu Asp  
 115 120 125  
 Trp Arg Gln Pro Arg Glu Asp Trp Arg Arg Pro Ser His Gln Gln Pro  
 130 135 140  
 Arg Lys Ile Arg Pro Glu Gly Arg Glu Gly Glu Gln Glu Trp Gly Thr  
 145 150 155 160  
 Pro Gly Ser His Val Arg Glu Glu Thr Ser Arg Asn Asn Pro Phe Tyr  
 165 170 175  
 Phe Pro Ser Arg Arg Phe Ser Thr Arg Tyr Gly Asn Gln Asn Gly Arg  
 180 185 190  
 Ile Arg Val Leu Gln Arg Phe Asp Gln Arg Ser Arg Gln Phe Gln Asn  
 195 200 205  
 Leu Gln Asn His Arg Ile Val Gln Ile Glu Ala Lys Pro Asn Thr Leu  
 210 215 220  
 Val Leu Pro Lys His Ala Asp Ala Asp Asn Ile Leu Val Ile Gln Gln  
 225 230 235 240  
 Gly Gln Ala Thr Val Thr Val Ala Asn Gly Asn Asn Arg Lys Ser Phe  
 245 250 255  
 Asn Leu Asp Glu Gly His Ala Leu Arg Ile Pro Ser Gly Phe Ile Ser  
 260 265 270  
 Tyr Ile Leu Asn Arg His Asp Asn Gln Asn Leu Arg Val Ala Lys Ile  
 275 280 285  
 Ser Met Pro Val Asn Thr Pro Gly Gln Phe Glu Asp Phe Phe Pro Ala  
 290 295 300  
 Ser Ser Arg Asp Gln Ser Ser Tyr Leu Gln Gly Phe Ser Arg Asn Thr  
 305 310 315 320  
 Leu Glu Ala Ala Phe Asn Ala Glu Phe Asn Glu Ile Arg Arg Val Leu  
 325 330 335  
 Leu Glu Glu Asn Ala Gly Gly Glu Gln Glu Glu Arg Gly Gln Arg Arg  
 340 345 350  
 Trp Ser Thr Arg Ser Ser Glu Asn Asn Glu Gly Val Ile Val Lys Val  
 355 360 365  
 Ser Lys Glu His Val Glu Glu Leu Thr Lys His Ala Lys Ser Val Ser  
 370 375 380  
 Lys Lys Gly Ser Glu Glu Glu Gly Asp Ile Thr Asn Pro Ile Asn Leu  
 385 390 395 400  
 Arg Glu Gly Glu Pro Asp Leu Ser Asn Asn Phe Gly Lys Leu Phe Glu  
 405 410 415  
 Val Lys Pro Asp Lys Lys Asn Pro Gln Leu Gln Asp Leu Asp Met Met  
 420 425 430  
 Leu Thr Cys Val Glu Ile Lys Glu Gly Ala Leu Met Leu Pro His Phe  
 435 440 445

5538-1010seqlisting.txt

Asn Ser Lys Ala Met Val Ile Val Val Val Asn Lys Gly Thr Gly Asn  
 450 455 460  
 Leu Glu Leu Val Ala Val Arg Lys Glu Gln Gln Gln Arg Gly Arg Arg  
 465 470 475 480  
 Glu Glu Glu Glu Asp Glu Asp Glu Glu Glu Glu Gly Ser Asn Arg Glu  
 485 490 495  
 Val Arg Arg Tyr Thr Ala Arg Leu Lys Glu Gly Asp Val Phe Ile Met  
 500 505 510  
 Pro Ala Ala His Pro Val Ala Ile Asn Ala Ser Ser Glu Leu His Leu  
 515 520 525  
 Leu Gly Phe Gly Ile Asn Ala Glu Asn Asn His Arg Ile Phe Leu Ala  
 530 535 540  
 Gly Asp Lys Asp Asn Val Ile Asp Gln Ile Glu Lys Gln Ala Lys Asp  
 545 550 555 560  
 Leu Ala Phe Pro Gly Ser Gly Glu Gln Val Glu Lys Leu Ile Lys Asn  
 565 570 575  
 Gln Lys Glu Ser His Phe Val Ser Ala Arg Pro Gln Ser Gln Ser Gln  
 580 585 590  
 Ser Pro Ser Ser Pro Glu Lys Glu Ser Pro Glu Lys Glu Asp Gln Glu  
 595 600 605  
 Glu Glu Asn Gln Gly Gly Lys Gly Pro Leu Leu Ser Ile Leu Lys Ala  
 610 615 620

Phe Asn  
 625

<210> 96

<211> 392

<212> PRT

<213> Ambrosia artemisiifolia

<400> 96

Met Gly Ile Lys His Cys Cys Tyr Ile Leu Tyr Phe Thr Leu Ala Leu  
 1 5 10 15  
 Val Thr Leu Leu Gln Pro Val Arg Ser Ala Glu Asp Leu Gln Gln Ile  
 20 25 30  
 Leu Pro Ser Ala Asn Glu Thr Arg Ser Leu Thr Thr Cys Gly Thr Tyr  
 35 40 45  
 Asn Ile Ile Asp Gly Cys Trp Arg Gly Lys Ala Asp Trp Ala Glu Asn  
 50 55 60  
 Arg Lys Ala Leu Ala Asp Cys Ala Gln Gly Phe Ala Lys Gly Thr Ile  
 65 70 75 80

5538-1010seqlisting.txt

Gly Gly Lys Asp Gly Asp Ile Tyr Thr Val Thr Ser Glu Leu Asp Asp  
85 90 95  
Asp Val Ala Asn Pro Lys Glu Gly Thr Leu Arg Phe Gly Ala Ala Gln  
100 105 110  
Asn Arg Pro Leu Trp Ile Ile Phe Ala Arg Asp Met Val Ile Arg Leu  
115 120 125  
Asp Arg Glu Leu Ala Ile Asn Asn Asp Lys Thr Ile Asp Gly Arg Gly  
130 135 140  
Ala Lys Val Glu Ile Ile Asn Ala Gly Phe Ala Ile Tyr Asn Val Lys  
145 150 155 160  
Asn Ile Ile Ile His Asn Ile Ile Met His Asp Ile Val Val Asn Pro  
165 170 175  
Gly Gly Leu Ile Lys Ser His Asp Gly Pro Pro Val Pro Arg Lys Gly  
180 185 190  
Ser Asp Gly Asp Ala Ile Gly Ile Ser Gly Gly Ser Gln Ile Trp Ile  
195 200 205  
Asp His Cys Ser Leu Ser Lys Ala Val Asp Gly Leu Ile Asp Ala Lys  
210 215 220  
His Gly Ser Thr His Phe Thr Val Ser Asn Cys Leu Phe Thr Gln His  
225 230 235 240  
Gln Tyr Leu Leu Leu Phe Trp Asp Phe Asp Glu Arg Gly Met Leu Cys  
245 250 255  
Thr Val Ala Phe Asn Lys Phe Thr Asp Asn Val Asp Gln Arg Met Pro  
260 265 270  
Asn Leu Arg His Gly Phe Val Gln Val Val Asn Asn Asn Tyr Glu Arg  
275 280 285  
Trp Gly Ser Tyr Ala Leu Gly Gly Ser Ala Gly Pro Thr Ile Leu Ser  
290 295 300  
Gln Gly Asn Arg Phe Leu Ala Ser Asp Ile Lys Lys Glu Val Val Gly  
305 310 315 320  
Arg Tyr Gly Glu Ser Ala Met Ser Glu Ser Ile Asn Trp Asn Trp Arg  
325 330 335  
Ser Tyr Met Asp Val Phe Glu Asn Gly Ala Ile Phe Val Pro Ser Gly  
340 345 350  
Val Asp Pro Val Leu Thr Pro Glu Gln Asn Ala Gly Met Ile Pro Ala  
355 360 365  
Glu Pro Gly Glu Ala Val Leu Arg Leu Thr Ser Ser Ala Gly Val Leu  
370 375 380  
Ser Cys Gln Pro Gly Ala Pro Cys  
385 390

<210> 97

&lt;211&gt; 397

&lt;212&gt; PRT

<213> *Ambrosia artemisiifolia*

&lt;400&gt; 97

Met Gly Ile Lys His Cys Cys Tyr Ile Leu Tyr Phe Thr Leu Ala Leu  
 1 5 10 15  
 Val Thr Leu Val Gln Ala Gly Arg Leu Gly Glu Glu Val Asp Ile Leu  
 20 25 30  
 Pro Ser Pro Asn Asp Thr Arg Arg Ser Leu Gln Gly Cys Glu Ala His  
 35 40 45  
 Asn Ile Ile Asp Lys Cys Trp Arg Cys Lys Pro Asp Trp Ala Glu Asn  
 50 55 60  
 Arg Gln Ala Leu Gly Asn Cys Ala Gln Gly Phe Gly Lys Ala Thr His  
 65 70 75 80  
 Gly Gly Lys Trp Gly Asp Ile Tyr Met Val Thr Ser Asp Gln Asp Asp  
 85 90 95  
 Asp Val Val Asn Pro Lys Glu Gly Thr Leu Arg Phe Gly Ala Thr Gln  
 100 105 110  
 Asp Arg Pro Leu Trp Ile Ile Phe Gln Arg Asp Met Ile Ile Tyr Leu  
 115 120 125  
 Gln Gln Glu Met Val Val Thr Ser Asp Lys Thr Ile Asp Gly Arg Gly  
 130 135 140  
 Ala Lys Val Glu Leu Val Tyr Gly Gly Ile Thr Leu Met Asn Val Lys  
 145 150 155 160  
 Asn Val Ile Ile His Asn Ile Asp Ile His Asp Val Arg Val Leu Pro  
 165 170 175  
 Gly Gly Arg Ile Lys Ser Asn Gly Gly Pro Ala Ile Pro Arg His Gln  
 180 185 190  
 Ser Asp Gly Asp Ala Ile His Val Thr Gly Ser Ser Asp Ile Trp Ile  
 195 200 205  
 Asp His Cys Thr Leu Ser Lys Ser Phe Asp Gly Leu Val Asp Val Asn  
 210 215 220  
 Trp Gly Ser Thr Gly Val Thr Ile Ser Asn Cys Lys Phe Thr His His  
 225 230 235 240  
 Glu Lys Ala Val Leu Leu Gly Ala Ser Asp Thr His Phe Gln Asp Leu  
 245 250 255  
 Lys Met His Val Thr Leu Ala Tyr Asn Ile Phe Thr Asn Thr Val His  
 260 265 270  
 Glu Arg Met Pro Arg Cys Arg Phe Gly Phe Phe Gln Ile Val Asn Asn  
 275 280 285

5538-1010seqlisting.txt

Phe Tyr Asp Arg Trp Asp Lys Tyr Ala Ile Gly Gly Ser Ser Asn Pro  
 290 295 300  
 Thr Ile Leu Ser Gln Gly Asn Lys Phe Val Ala Pro Asp Phe Ile Tyr  
 305 310 315 320  
 Lys Lys Asn Val Cys Leu Arg Thr Gly Ala Gln Glu Pro Glu Trp Met  
 325 330 335  
 Thr Trp Asn Trp Arg Thr Gln Asn Asp Val Leu Glu Asn Gly Ala Ile  
 340 345 350  
 Phe Val Ala Ser Gly Ser Asp Pro Val Leu Thr Ala Glu Gln Asn Ala  
 355 360 365  
 Gly Met Met Gln Ala Glu Pro Gly Asp Met Val Pro Gln Leu Thr Met  
 370 375 380  
 Asn Ala Gly Val Leu Thr Cys Ser Pro Gly Ala Pro Cys  
 385 390 395

<210> 98

<211> 397

<212> PRT

<213> Ambrosia artemisiifolia

<400> 98

Met Gly Ile Lys Gln Cys Cys Tyr Ile Leu Tyr Phe Thr Leu Ala Leu  
 1 5 10 15  
 Val Ala Leu Leu Gln Pro Val Arg Ser Ala Glu Gly Val Gly Glu Ile  
 20 25 30  
 Leu Pro Ser Val Asn Glu Thr Arg Ser Leu Gln Ala Cys Glu Ala Leu  
 35 40 45  
 Asn Ile Ile Asp Lys Cys Trp Arg Gly Lys Ala Asp Trp Glu Asn Asn  
 50 55 60  
 Arg Gln Ala Leu Ala Asp Cys Ala Gln Gly Phe Ala Lys Gly Thr Tyr  
 65 70 75 80  
 Gly Gly Lys Trp Gly Asp Val Tyr Thr Val Thr Ser Asn Leu Asp Asp  
 85 90 95  
 Asp Val Ala Asn Pro Lys Glu Gly Thr Leu Arg Phe Ala Ala Ala Gln  
 100 105 110  
 Asn Arg Pro Leu Trp Ile Ile Phe Lys Asn Asp Met Val Ile Asn Leu  
 115 120 125  
 Asn Gln Glu Leu Val Val Asn Ser Asp Lys Thr Ile Asp Gly Arg Gly  
 130 135 140  
 Val Lys Val Glu Ile Ile Asn Gly Gly Leu Thr Leu Met Asn Val Lys  
 145 150 155 160



## 5538-1010seqlisting.txt

Asn Ile Ile Ile His Asn Ile Asn Ile His Asp Val Lys Val Leu Pro  
 165 170 175  
 Gly Gly Met Ile Lys Ser Asn Asp Gly Pro Pro Ile Leu Arg Gln Ala  
 180 185 190  
 Ser Asp Gly Asp Thr Ile Asn Val Ala Gly Ser Ser Gln Ile Trp Ile  
 195 200 205  
 Asp His Cys Ser Leu Ser Lys Ser Phe Asp Gly Leu Val Asp Val Thr  
 210 215 220  
 Leu Gly Ser Thr His Val Thr Ile Ser Asn Cys Lys Phe Thr Gln Gln  
 225 230 235 240  
 Ser Lys Ala Ile Leu Leu Gly Ala Asp Asp Thr His Val Gln Asp Lys  
 245 250 255  
 Gly Met Leu Ala Thr Val Ala Phe Asn Met Phe Thr Asp Asn Val Asp  
 260 265 270  
 Gln Arg Met Pro Arg Cys Arg Phe Gly Phe Phe Gln Val Val Asn Asn  
 275 280 285  
 Asn Tyr Asp Arg Trp Gly Thr Tyr Ala Ile Gly Gly Ser Ser Ala Pro  
 290 295 300  
 Thr Ile Leu Cys Gln Gly Asn Arg Phe Leu Ala Pro Asp Asp Gln Ile  
 305 310 315 320  
 Lys Lys Asn Val Leu Ala Arg Thr Gly Thr Gly Ala Ala Glu Ser Met  
 325 330 335  
 Ala Trp Asn Trp Arg Ser Asp Lys Asp Leu Leu Glu Asn Gly Ala Ile  
 340 345 350  
 Phe Val Thr Ser Gly Ser Asp Pro Val Leu Thr Pro Val Gln Ser Ala  
 355 360 365  
 Gly Met Ile Pro Ala Glu Pro Gly Glu Ala Ala Ile Lys Leu Thr Ser  
 370 375 380  
 Ser Ala Gly Val Phe Ser Cys His Pro Gly Ala Pro Cys  
 385 390 395

&lt;210&gt; 99

&lt;211&gt; 398

&lt;212&gt; PRT

&lt;213&gt; Ambrosia artemisiifolia

&lt;400&gt; 99

Met Gly Ile Lys His Cys Cys Tyr Ile Leu Tyr Phe Thr Leu Ala Leu  
 1 5 10 15  
 Val Thr Leu Leu Gln Pro Val Arg Ser Ala Glu Asp Val Glu Glu Phe  
 20 25 30

## 5538-1010seqlisting.txt

Leu Pro Ser Ala Asn Glu Thr Arg Arg Ser Leu Lys Ala Cys Glu Ala  
 35 40 45  
 His Asn Ile Ile Asp Lys Cys Trp Arg Cys Lys Ala Asp Trp Ala Asn  
 50 55 60  
 Asn Arg Gln Ala Leu Ala Asp Cys Ala Gln Gly Phe Ala Lys Gly Thr  
 65 70 75 80  
 Tyr Gly Gly Lys His Gly Asp Val Tyr Thr Val Thr Ser Asp Lys Asp  
 85 90 95  
 Asp Asp Val Ala Asn Pro Lys Glu Gly Thr Leu Arg Phe Ala Ala Ala  
 100 105 110  
 Gln Asn Arg Pro Leu Trp Ile Ile Phe Lys Arg Asn Met Val Ile His  
 115 120 125  
 Leu Asn Gln Glu Leu Val Val Asn Ser Asp Lys Thr Ile Asp Gly Arg  
 130 135 140  
 Gly Val Lys Val Asn Ile Val Asn Ala Gly Leu Thr Leu Met Asn Val  
 145 150 155 160  
 Lys Asn Ile Ile Ile His Asn Ile Asn Ile His Asp Ile Lys Val Cys  
 165 170 175  
 Pro Gly Gly Met Ile Lys Ser Asn Asp Gly Pro Pro Ile Leu Arg Gln  
 180 185 190  
 Gln Ser Asp Gly Asp Ala Ile Asn Val Ala Gly Ser Ser Gln Ile Trp  
 195 200 205  
 Ile Asp His Cys Ser Leu Ser Lys Ala Ser Asp Gly Leu Leu Asp Ile  
 210 215 220  
 Thr Leu Gly Ser Ser His Val Thr Val Ser Asn Cys Lys Phe Thr Gln  
 225 230 235 240  
 His Gln Phe Val Leu Leu Leu Gly Ala Asp Asp Thr His Tyr Gln Asp  
 245 250 255  
 Lys Gly Met Leu Ala Thr Val Ala Phe Asn Met Phe Thr Asp His Val  
 260 265 270  
 Asp Gln Arg Met Pro Arg Cys Arg Phe Gly Phe Phe Gln Val Val Asn  
 275 280 285  
 Asn Asn Tyr Asp Arg Trp Gly Thr Tyr Ala Ile Gly Gly Ser Ser Ala  
 290 295 300  
 Pro Thr Ile Leu Ser Gln Gly Asn Arg Phe Phe Ala Pro Asp Asp Ile  
 305 310 315 320  
 Ile Lys Lys Asn Val Leu Ala Arg Thr Gly Thr Gly Asn Ala Glu Ser  
 325 330 335  
 Met Ser Trp Asn Trp Arg Thr Asp Arg Asp Leu Leu Glu Asn Gly Ala  
 340 345 350  
 Ile Phe Leu Pro Ser Gly Ser Asp Pro Val Leu Thr Pro Glu Gln Lys  
 355 360 365

5538-1010seqlisting.txt

Ala Gly Met Ile Pro Ala Glu Pro Gly Glu Ala Val Leu Arg Leu Thr  
370 375 380

Ser Ser Ala Gly Val Leu Ser Cys His Gln Gly Ala Pro Cys  
385 390 395

<210> 100

<211> 396

<212> PRT

<213> Ambrosia artemisiifolia

<400> 100

Met Gly Ile Lys His Cys Cys Tyr Ile Leu Tyr Phe Thr Leu Ala Leu  
1 5 10 15

Val Thr Leu Leu Gln Pro Val Arg Ser Ala Glu Asp Leu Gln Glu Ile  
20 25 30

Leu Pro Val Asn Glu Thr Arg Arg Leu Thr Thr Ser Gly Ala Tyr Asn  
35 40 45

Ile Ile Asp Gly Cys Trp Arg Gly Lys Ala Asp Trp Ala Glu Asn Arg  
50 55 60

Lys Ala Leu Ala Asp Cys Ala Gln Gly Phe Gly Lys Gly Thr Val Gly  
65 70 75 80

Gly Lys Asp Gly Asp Ile Tyr Thr Val Thr Ser Glu Leu Asp Asp Asp  
85 90 95

Val Ala Asn Pro Lys Glu Gly Thr Leu Arg Phe Gly Ala Ala Gln Asn  
100 105 110

Arg Pro Leu Trp Ile Ile Phe Glu Arg Asp Met Val Ile Arg Leu Asp  
115 120 125

Lys Glu Met Val Val Asn Ser Asp Lys Thr Ile Asp Gly Arg Gly Ala  
130 135 140

Lys Val Glu Ile Ile Asn Ala Gly Phe Thr Leu Asn Gly Val Lys Asn  
145 150 155 160

Val Ile Ile His Asn Ile Asn Met His Asp Val Lys Val Asn Pro Gly  
165 170 175

Gly Leu Ile Lys Ser Asn Asp Gly Pro Ala Ala Pro Arg Ala Gly Ser  
180 185 190

Asp Gly Asp Ala Ile Ser Ile Ser Gly Ser Ser Gln Ile Trp Ile Asp  
195 200 205

His Cys Ser Leu Ser Lys Ser Val Asp Gly Leu Val Asp Ala Lys Leu  
210 215 220

Gly Thr Thr Arg Leu Thr Val Ser Asn Ser Leu Phe Thr Gln His Gln  
225 230 235 240

5538-1010seqlisting.txt

Phe Val Leu Leu Phe Gly Ala Gly Asp Glu Asn Ile Glu Asp Arg Gly  
245 250 255  
Met Leu Ala Thr Val Ala Phe Asn Thr Phe Thr Asp Asn Val Asp Gln  
260 265 270  
Arg Met Pro Arg Cys Arg His Gly Phe Phe Gln Val Val Asn Asn Asn  
275 280 285  
Tyr Asp Lys Trp Gly Ser Tyr Ala Ile Gly Gly Ser Ala Ser Pro Thr  
290 295 300  
Ile Leu Ser Gln Gly Asn Arg Phe Cys Ala Pro Asp Glu Arg Ser Lys  
305 310 315 320  
Lys Asn Val Leu Gly Arg His Gly Glu Ala Ala Ala Glu Ser Met Lys  
325 330 335  
Trp Asn Trp Arg Thr Asn Lys Asp Val Leu Glu Asn Gly Ala Ile Phe  
340 345 350  
Val Ala Ser Gly Val Asp Pro Val Leu Thr Pro Glu Gln Ser Ala Gly  
355 360 365  
Met Ile Pro Ala Glu Pro Gly Glu Ser Ala Leu Ser Leu Thr Ser Ser  
370 375 380  
Ala Gly Val Leu Ser Cys Gln Pro Gly Ala Pro Cys  
385 390 395

<210> 101

<211> 373

<212> PRT

<213> *Cryptomeria japonica*

<400> 101

Met Asp Ser Pro Cys Leu Val Ala Leu Leu Val Phe Ser Phe Val Ile  
1 5 10 15  
Gly Ser Cys Phe Ser Asp Asn Pro Ile Asp Ser Cys Trp Arg Gly Asp  
20 25 30  
Ser Asn Trp Ala Gln Asn Arg Met Lys Leu Ala Asp Cys Ala Val Gly  
35 40 45  
Phe Gly Ser Ser Thr Met Gly Gly Lys Gly Gly Asp Leu Tyr Thr Val  
50 55 60  
Thr Asn Ser Asp Asp Asp Pro Val Asn Pro Pro Gly Thr Leu Arg Tyr  
65 70 75 80  
Gly Ala Thr Arg Asp Arg Pro Leu Trp Ile Ile Phe Ser Gly Asn Met  
85 90 95  
Asn Ile Lys Leu Lys Met Pro Met Tyr Ile Ala Gly Tyr Lys Thr Phe  
100 105 110

## 5538-1010seqlisting.txt

Asp Gly Arg Gly Ala Gln Val Tyr Ile Gly Asn Gly Gly Pro Cys Val  
 115 120  
 Phe Ile Lys Arg Val Ser Asn Val Ile Ile His Gly Leu Tyr Leu Tyr  
 130 135 140  
 Gly Cys Ser Thr Ser Val Leu Gly Asn Val Leu Ile Asn Glu Ser Phe  
 145 150 155 160  
 Gly Val Glu Pro Val His Pro Gln Asp Gly Asp Ala Leu Thr Leu Arg  
 165 170 175  
 Thr Ala Thr Asn Ile Trp Ile Asp His Asn Ser Phe Ser Asn Ser Ser  
 180 185 190  
 Asp Gly Leu Val Asp Val Thr Leu Thr Ser Thr Gly Val Thr Ile Ser  
 195 200 205  
 Asn Asn Leu Phe Phe Asn His His Lys Val Met Ser Leu Gly His Asp  
 210 215 220  
 Asp Ala Tyr Ser Asp Asp Lys Ser Met Lys Val Thr Val Ala Phe Asn  
 225 230 235 240  
 Gln Phe Gly Pro Asn Cys Gly Gln Arg Met Pro Arg Ala Arg Tyr Gly  
 245 250 255  
 Leu Val His Val Ala Asn Asn Asn Tyr Asp Pro Trp Thr Ile Tyr Ala  
 260 265 270  
 Ile Gly Gly Ser Ser Asn Pro Thr Ile Leu Ser Glu Gly Asn Ser Phe  
 275 280 285  
 Thr Ala Pro Asn Glu Ser Tyr Lys Lys Gln Val Thr Ile Arg Ile Gly  
 290 295 300  
 Cys Lys Thr Ser Ser Ser Cys Ser Asn Trp Val Trp Gln Ser Thr Gln  
 305 310 315 320  
 Asp Val Phe Tyr Asn Gly Ala Tyr Phe Val Ser Ser Gly Lys Tyr Glu  
 325 330 335  
 Gly Gly Asn Ile Tyr Thr Lys Lys Glu Ala Phe Asn Val Glu Asn Gly  
 340 345 350  
 Asn Ala Thr Pro His Leu Thr Gln Asn Ala Gly Val Leu Thr Cys Ser  
 355 360 365  
 Leu Ser Lys Arg Cys  
 370

&lt;210&gt; 102

&lt;211&gt; 374

&lt;212&gt; PRT

&lt;213&gt; Cryptomeria japonica

&lt;400&gt; 102

5538-1010seqlisting.txt

Met Asp Ser Pro Cys Leu Val Ala Leu Leu Val Leu Ser Phe Val Ile  
 1 5 10 15  
 Gly Ser Cys Phe Ser Asp Asn Pro Ile Asp Ser Cys Trp Arg Gly Asp  
 20 25 30  
 Ser Asn Trp Ala Gln Asn Arg Met Lys Leu Ala Asp Cys Ala Val Gly  
 35 40 45  
 Phe Gly Ser Ser Thr Met Gly Gly Lys Gly Gly Asp Leu Tyr Thr Val  
 50 55 60  
 Thr Asn Ser Asp Asp Asp Pro Val Asn Pro Ala Pro Gly Thr Leu Arg  
 65 70 75 80  
 Tyr Gly Ala Thr Arg Asp Arg Pro Leu Trp Ile Ile Phe Ser Gly Asn  
 85 90 95  
 Met Asn Ile Lys Leu Lys Met Pro Met Tyr Ile Ala Gly Tyr Lys Thr  
 100 105 110  
 Phe Asp Gly Arg Gly Ala Gln Val Tyr Ile Gly Asn Gly Gly Pro Cys  
 115 120 125  
 Val Phe Ile Lys Arg Val Ser Asn Val Ile Ile His Gly Leu His Leu  
 130 135 140  
 Tyr Gly Cys Ser Thr Ser Val Leu Gly Asn Val Leu Ile Asn Glu Ser  
 145 150 155 160  
 Phe Gly Val Glu Pro Val His Pro Gln Asp Gly Asp Ala Leu Thr Leu  
 165 170 175  
 Arg Thr Ala Thr Asn Ile Trp Ile Asp His Asn Ser Phe Ser Asn Ser  
 180 185 190  
 Ser Asp Gly Leu Val Asp Val Thr Leu Ser Ser Thr Gly Val Thr Ile  
 195 200 205  
 Ser Asn Asn Leu Phe Phe Asn His His Lys Val Met Leu Leu Gly His  
 210 215 220  
 Asp Asp Ala Tyr Ser Asp Asp Lys Ser Met Lys Val Thr Val Ala Phe  
 225 230 235 240  
 Asn Gln Phe Gly Pro Asn Cys Gly Gln Arg Met Pro Arg Ala Arg Tyr  
 245 250 255  
 Gly Leu Val His Val Ala Asn Asn Asn Tyr Asp Pro Trp Thr Ile Tyr  
 260 265 270  
 Ala Ile Gly Gly Ser Ser Asn Pro Thr Ile Leu Ser Glu Gly Asn Ser  
 275 280 285  
 Phe Thr Ala Pro Asn Glu Ser Tyr Lys Lys Gln Val Thr Ile Arg Ile  
 290 295 300  
 Gly Cys Lys Thr Ser Ser Ser Cys Ser Asn Trp Val Trp Gln Ser Thr  
 305 310 315 320  
 Gln Asp Val Phe Tyr Asn Gly Ala Tyr Phe Val Ser Ser Gly Lys Tyr  
 325 330 335

5538-1010seqlisting.txt

Glu Gly Gly Asn Ile Tyr Thr Lys Lys Glu Ala Phe Asn Val Glu Asn  
340 345 350

Gly Asn Ala Thr Pro Gln Leu Thr Lys Asn Ala Gly Val Leu Thr Cys  
355 360 365

Ser Leu Ser Lys Arg Cys  
370

<210> 103

<211> 514

<212> PRT

<213> Cryptomeria japonica

<400> 103

Met Ala Met Lys Leu Ile Ala Pro Met Ala Phe Leu Ala Met Gln Leu  
1 5 10 15

Ile Ile Met Ala Ala Ala Glu Asp Gln Ser Ala Gln Ile Met Leu Asp  
20 25 30

Ser Val Val Glu Lys Tyr Leu Arg Ser Asn Arg Ser Leu Arg Lys Val  
35 40 45

Glu His Ser Arg His Asp Ala Ile Asn Ile Phe Asn Val Glu Lys Tyr  
50 55 60

Gly Ala Val Gly Asp Gly Lys His Asp Cys Thr Glu Ala Phe Ser Thr  
65 70 75 80

Ala Trp Gln Ala Ala Cys Lys Asn Pro Ser Ala Met Leu Leu Val Pro  
85 90 95

Gly Ser Lys Lys Phe Val Val Asn Asn Leu Phe Phe Asn Gly Pro Cys  
100 105 110

Gln Pro His Phe Thr Phe Lys Val Asp Gly Ile Ile Ala Ala Tyr Gln  
115 120 125

Asn Pro Ala Ser Trp Lys Asn Asn Arg Ile Trp Leu Gln Phe Ala Lys  
130 135 140

Leu Thr Gly Phe Thr Leu Met Gly Lys Gly Val Ile Asp Gly Gln Gly  
145 150 155 160

Lys Gln Trp Trp Ala Gly Gln Cys Lys Trp Val Asn Gly Arg Glu Ile  
165 170 175

Cys Asn Asp Arg Asp Arg Pro Thr Ala Ile Lys Phe Asp Phe Ser Thr  
180 185 190

Gly Leu Ile Ile Gln Gly Leu Lys Leu Met Asn Ser Pro Glu Phe His  
195 200 205

Leu Val Phe Gly Asn Cys Glu Gly Val Lys Ile Ile Gly Ile Ser Ile  
210 215 220

5538-1010seqlisting.txt

Thr Ala Pro Arg Asp Ser Pro Asn Thr Asp Gly Ile Asp Ile Phe Ala  
 225 230 235 240  
 Ser Lys Asn Phe His Leu Gln Lys Asn Thr Ile Gly Thr Gly Asp Asp  
 245 250 255  
 Cys Val Ala Ile Gly Thr Gly Ser Ser Asn Ile Val Ile Glu Asp Leu  
 260 265 270  
 Ile Cys Gly Pro Gly His Gly Ile Ser Ile Gly Ser Leu Gly Arg Glu  
 275 280 285  
 Asn Ser Arg Ala Glu Val Ser Tyr Val His Val Asn Gly Ala Lys Phe  
 290 295 300  
 Ile Asp Thr Gln Asn Gly Leu Arg Ile Lys Thr Trp Gln Gly Gly Ser  
 305 310 315 320  
 Gly Met Ala Ser His Ile Ile Tyr Glu Asn Val Glu Met Ile Asn Ser  
 325 330 335  
 Glu Asn Pro Ile Leu Ile Asn Gln Phe Tyr Cys Thr Ser Ala Ser Ala  
 340 345 350  
 Cys Gln Asn Gln Arg Ser Ala Val Gln Ile Gln Asp Val Thr Tyr Lys  
 355 360 365  
 Asn Ile Arg Gly Thr Ser Ala Thr Ala Ala Ala Ile Gln Leu Lys Cys  
 370 375 380  
 Ser Asp Ser Met Pro Cys Lys Asp Ile Lys Leu Ser Asp Ile Ser Leu  
 385 390 395 400  
 Lys Leu Thr Ser Gly Lys Ile Ala Ser Cys Leu Asn Asp Asn Ala Asn  
 405 410 415  
 Gly Tyr Phe Ser Gly His Val Ile Pro Ala Cys Lys Asn Leu Ser Pro  
 420 425 430  
 Ser Ala Lys Arg Lys Glu Ser Lys Ser His Lys His Pro Lys Thr Val  
 435 440 445  
 Met Val Glu Asn Met Arg Ala Tyr Asp Lys Gly Asn Arg Thr Arg Ile  
 450 455 460  
 Leu Leu Gly Ser Arg Pro Pro Asn Cys Thr Asn Lys Cys His Gly Cys  
 465 470 475 480  
 Ser Pro Cys Lys Ala Lys Leu Val Ile Val His Arg Ile Met Pro Gln  
 485 490 495  
 Glu Tyr Tyr Pro Gln Arg Trp Ile Cys Ser Cys His Gly Lys Ile Tyr  
 500 505 510  
 His Pro

<210> 104

<211> 514

<212> PRT



&lt;213&gt; Cryptomeria japonica

&lt;400&gt; 104

Met Ala Met Lys Phe Ile Ala Pro Met Ala Phe Val Ala Met Gln Leu  
 1 5 10 15  
 Ile Ile Met Ala Ala Ala Glu Asp Gln Ser Ala Gln Ile Met Leu Asp  
 20 25 30  
 Ser Asp Ile Glu Gln Tyr Leu Arg Ser Asn Arg Ser Leu Arg Lys Val  
 35 40 45  
 Glu His Ser Arg His Asp Ala Ile Asn Ile Phe Asn Val Glu Lys Tyr  
 50 55 60  
 Gly Ala Val Gly Asp Gly Lys His Asp Cys Thr Glu Ala Phe Ser Thr  
 65 70 75 80  
 Ala Trp Gln Ala Ala Cys Lys Lys Pro Ser Ala Met Leu Leu Val Pro  
 85 90 95  
 Gly Asn Lys Lys Phe Val Val Asn Asn Leu Phe Phe Asn Gly Pro Cys  
 100 105 110  
 Gln Pro His Phe Thr Phe Lys Val Asp Gly Ile Ile Ala Ala Tyr Gln  
 115 120 125  
 Asn Pro Ala Ser Trp Lys Asn Asn Arg Ile Trp Leu Gln Phe Ala Lys  
 130 135 140  
 Leu Thr Gly Phe Thr Leu Met Gly Lys Gly Val Ile Asp Gly Gln Gly  
 145 150 155 160  
 Lys Gln Trp Trp Ala Gly Gln Cys Lys Trp Val Asn Gly Arg Glu Ile  
 165 170 175  
 Cys Asn Asp Arg Asp Arg Pro Thr Ala Ile Lys Phe Asp Phe Ser Thr  
 180 185 190  
 Gly Leu Ile Ile Gln Gly Leu Lys Leu Met Asn Ser Pro Glu Phe His  
 195 200 205  
 Leu Val Phe Gly Asn Cys Glu Gly Val Lys Ile Ile Gly Ile Ser Ile  
 210 215 220  
 Thr Ala Pro Arg Asp Ser Pro Asn Thr Asp Gly Ile Asp Ile Phe Ala  
 225 230 235 240  
 Ser Lys Asn Phe His Leu Gln Lys Asn Thr Ile Gly Thr Gly Asp Asp  
 245 250 255  
 Cys Val Ala Ile Gly Thr Gly Ser Ser Asn Ile Val Ile Glu Asp Leu  
 260 265 270  
 Ile Cys Gly Pro Gly His Gly Ile Ser Ile Gly Ser Leu Gly Arg Glu  
 275 280 285  
 Asn Ser Arg Ala Glu Val Ser Tyr Val His Val Asn Gly Ala Lys Phe  
 290 295 300

5538-1010seqlisting.txt

Ile Asp Thr Gln Asn Gly Leu Arg Ile Lys Thr Trp Gln Gly Gly Ser  
 305 310 315 320  
 Gly Met Ala Ser His Ile Ile Tyr Glu Asn Val Glu Met Ile Asn Ser  
 325 330 335  
 Glu Asn Pro Ile Leu Ile Asn Gln Phe Tyr Cys Thr Ser Ala Ser Ala  
 340 345 350  
 Cys Gln Asn Gln Arg Ser Ala Val Gln Ile Gln Asp Val Thr Tyr Lys  
 355 360 365  
 Asn Ile Arg Gly Thr Ser Ala Thr Ala Ala Ala Ile Gln Leu Lys Cys  
 370 375 380  
 Ser Asp Ser Met Pro Cys Lys Asp Ile Lys Leu Ser Asp Ile Ser Leu  
 385 390 395 400  
 Lys Leu Thr Ser Gly Lys Ile Ala Ser Cys Leu Asn Asp Asn Ala Asn  
 405 410 415  
 Gly Tyr Phe Ser Gly His Val Ile Pro Ala Cys Lys Asn Leu Ser Pro  
 420 425 430  
 Ser Ala Lys Arg Lys Glu Ser Lys Ser His Lys His Pro Lys Thr Val  
 435 440 445  
 Met Val Lys Asn Met Gly Ala Tyr Asp Lys Gly Asn Arg Thr Arg Ile  
 450 455 460  
 Leu Leu Gly Ser Arg Pro Pro Asn Cys Thr Asn Lys Cys His Gly Cys  
 465 470 475 480  
 Ser Pro Cys Lys Ala Lys Leu Val Ile Val His Arg Ile Met Pro Gln  
 485 490 495  
 Glu Tyr Tyr Pro Gln Arg Trp Met Cys Ser Arg His Gly Lys Ile Tyr  
 500 505 510  
 His Pro

<210> 105

<211> 373

<212> PRT

<213> Cryptomeria japonica

<400> 105

Met Asp Ser Pro Cys Leu Val Ala Leu Leu Val Leu Ser Phe Val Ile  
 1 5 10 15  
 Gly Ser Cys Phe Ser Asp Asn Pro Ile Asp Ser Cys Trp Arg Gly Asp  
 20 25 30  
 Ser Asn Trp Ala Gln Asn Arg Met Lys Leu Ala Asp Cys Ala Val Gly  
 35 40 45

## 5538-1010seqlisting.txt

Phe Gly Ser Ser Thr Met Gly Gly Lys Gly Gly Asp Leu Tyr Thr Val  
 50 55 60  
 Thr Asn Ser Asp Asp Asp Pro Val Asn Pro Pro Gly Thr Leu Arg Tyr  
 65 70 75 80  
 Gly Ala Thr Arg Asp Arg Pro Leu Trp Ile Ile Phe Ser Gly Asn Met  
 85 90 95  
 Asn Ile Lys Leu Lys Met Pro Met Tyr Ile Ala Gly Tyr Lys Thr Phe  
 100 105 110  
 Asp Gly Arg Gly Ala Gln Val Tyr Ile Gly Asn Gly Gly Pro Cys Val  
 115 120 125  
 Phe Ile Lys Arg Val Ser Asn Val Ile Ile His Gly Leu His Leu Tyr  
 130 135 140  
 Gly Cys Ser Thr Ser Val Leu Gly Asn Val Leu Ile Asn Glu Ser Phe  
 145 150 155 160  
 Gly Val Glu Pro Val His Pro Gln Asp Gly Asp Ala Leu Thr Leu Arg  
 165 170 175  
 Thr Ala Thr Asn Ile Trp Ile Asp His Asn Ser Phe Ser Asn Ser Ser  
 180 185 190  
 Asp Gly Leu Val Asp Val Thr Leu Ser Ser Thr Gly Val Thr Ile Ser  
 195 200 205  
 Asn Asn Leu Phe Phe Asn His His Lys Val Met Leu Leu Gly His Asp  
 210 215 220  
 Asp Ala Tyr Ser Asp Asp Lys Ser Met Lys Val Thr Val Ala Phe Asn  
 225 230 235 240  
 Gln Phe Gly Pro Asn Cys Gly Gln Arg Met Pro Arg Ala Arg Tyr Gly  
 245 250 255  
 Leu Val His Val Ala Asn Asn Asn Tyr Asp Pro Trp Thr Ile Tyr Ala  
 260 265 270  
 Ile Gly Gly Ser Ser Asn Pro Thr Ile Leu Ser Glu Gly Asn Ser Phe  
 275 280 285  
 Thr Ala Pro Asn Glu Ser Tyr Lys Lys Gln Val Thr Ile Arg Ile Gly  
 290 295 300  
 Cys Lys Thr Ser Ser Ser Cys Ser Asn Trp Val Trp Gln Ser Thr Gln  
 305 310 315 320  
 Asp Val Phe Tyr Asn Gly Ala Tyr Phe Val Ser Ser Gly Lys Tyr Glu  
 325 330 335  
 Gly Gly Asn Ile Tyr Thr Lys Lys Glu Ala Phe Asn Val Glu Asn Gly  
 340 345 350  
 Asn Ala Thr Pro Gln Leu Thr Lys Asn Ala Gly Val Leu Thr Cys Ser  
 355 360 365  
 Leu Ser Lys Arg Cys  
 370

5538-1010seqlisting.txt

<210> 106

<211> 374

<212> PRT

<213> Cryptomeria japonica

<400> 106

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Met Asp Ser Pro Cys Leu Val Ala Leu Leu Val Phe Ser Phe Val Ile
1      5      10
Gly Ser Cys Phe Ser Asp Asn Pro Ile Asp Ser Cys Trp Arg Gly Asp
20     25     30
Ser Asn Trp Ala Gln Asn Arg Met Lys Leu Ala Asp Cys Ala Val Gly
35     40     45
Phe Gly Ser Ser Thr Met Gly Gly Lys Gly Gly Asp Leu Tyr Thr Val
50     55     60
Thr Asn Ser Asp Asp Asp Pro Val Asn Pro Ala Pro Gly Thr Leu Arg
65     70     75     80
Tyr Gly Ala Thr Arg Asp Arg Pro Leu Trp Ile Ile Phe Ser Gly Asn
85     90     95
Met Asn Ile Lys Leu Lys Met Pro Met Tyr Ile Ala Gly Tyr Lys Thr
100    105
Phe Asp Gly Arg Gly Ala Gln Val Tyr Ile Gly Asn Gly Gly Pro Cys
115    120    125
Val Phe Ile Lys Arg Val Ser Asn Val Ile Ile His Gly Leu Tyr Leu
130    135    140
Tyr Gly Cys Ser Thr Ser Val Leu Gly Asn Val Leu Ile Asn Glu Ser
145    150    155    160
Phe Gly Val Glu Pro Val His Pro Gln Asp Gly Asp Ala Leu Thr Leu
165    170    175
Arg Thr Ala Thr Asn Ile Trp Ile Asp His Asn Ser Phe Ser Asn Ser
180    185    190
Ser Asp Gly Leu Val Asp Val Thr Leu Thr Ser Thr Gly Val Thr Ile
195    200    205
Ser Asn Asn Leu Phe Phe Asn His His Lys Val Met Ser Leu Gly His
210    215    220
Asp Asp Ala Tyr Ser Asp Asp Lys Ser Met Lys Val Thr Val Ala Phe
225    230    235    240
Asn Gln Phe Gly Pro Asn Cys Gly Gln Arg Met Pro Arg Ala Arg Tyr
245    250    255
Gly Leu Val His Val Ala Asn Asn Asn Tyr Asp Pro Trp Thr Ile Tyr
260    265    270

```

5538-1010seqlisting.txt

Ala Ile Gly Gly Ser Ser Asn Pro Thr Ile Leu Ser Glu Gly Asn Ser  
275 280 285  
Phe Thr Ala Pro Asn Glu Ser Tyr Lys Lys Gln Val Thr Ile Arg Ile  
290 295 300  
Gly Cys Lys Thr Ser Ser Ser Cys Ser Asn Trp Val Trp Gln Ser Thr  
305 310 315 320  
Gln Asp Val Phe Tyr Asn Gly Ala Tyr Phe Val Ser Ser Gly Lys Tyr  
325 330 335  
Glu Gly Gly Asn Ile Tyr Thr Lys Lys Glu Ala Phe Asn Val Glu Asn  
340 345 350  
Gly Asn Ala Thr Pro His Leu Thr Gln Asn Ala Gly Val Leu Thr Cys  
355 360 365  
Ser Leu Ser Lys Arg Cys  
370

<210> 107

<211> 174

<212> PRT

<213> Canis familiaris

<400> 107

Met Lys Thr Leu Leu Leu Thr Ile Gly Phe Ser Leu Ile Ala Ile Leu  
1 5 10 15  
Gln Ala Gln Asp Thr Pro Ala Leu Gly Lys Asp Thr Val Ala Val Ser  
20 25 30  
Gly Lys Trp Tyr Leu Lys Ala Met Thr Ala Asp Gln Glu Val Pro Glu  
35 40 45  
Lys Pro Asp Ser Val Thr Pro Met Ile Leu Lys Ala Gln Lys Gly Gly  
50 55 60  
Asn Leu Glu Ala Lys Ile Thr Met Leu Thr Asn Gly Gln Cys Gln Asn  
65 70 75 80  
Ile Thr Val Val Leu His Lys Thr Ser Glu Pro Gly Lys Tyr Thr Ala  
85 90 95  
Tyr Glu Gly Gln Arg Val Val Phe Ile Gln Pro Ser Pro Val Arg Asp  
100 105 110  
His Tyr Ile Leu Tyr Cys Glu Gly Glu Leu His Gly Arg Gln Ile Arg  
115 120 125  
Met Ala Lys Leu Leu Gly Arg Asp Pro Glu Gln Ser Gln Glu Ala Leu  
130 135 140  
Glu Asp Phe Arg Glu Phe Ser Arg Ala Lys Gly Leu Asn Gln Glu Ile  
145 150 155 160

5538-1010seqlisting.txt

Leu Glu Leu Ala Gln Ser Glu Thr Cys Ser Pro Gly Gly Gln  
165 170

<210> 108

<211> 24

<212> PRT

<213> Canis familiaris

<400> 108

Glu Ala Tyr Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu  
1 5 10 15

Glu His Phe Arg Gly Leu Val Leu  
20

<210> 109

<211> 265

<212> PRT

<213> Canis familiaris

<400> 109

Leu Ser Ser Ala Lys Glu Arg Phe Lys Cys Ala Ser Leu Gln Lys Phe  
1 5 10 15

Gly Asp Arg Ala Phe Lys Ala Trp Ser Val Ala Arg Leu Ser Gln Arg  
20 25 30

Phe Pro Lys Ala Asp Phe Ala Glu Ile Ser Lys Val Val Thr Asp Leu  
35 40 45

Thr Lys Val His Lys Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala  
50 55 60

Asp Asp Arg Ala Asp Leu Ala Lys Tyr Met Cys Glu Asn Gln Asp Ser  
65 70 75 80

Ile Ser Thr Lys Leu Lys Glu Cys Cys Asp Lys Pro Val Leu Glu Lys  
85 90 95

Ser Gln Cys Leu Ala Glu Val Glu Arg Asp Glu Leu Pro Gly Asp Leu  
100 105 110

Pro Ser Leu Ala Ala Asp Phe Val Glu Asp Lys Glu Val Cys Lys Asn  
115 120 125

Tyr Gln Glu Ala Lys Asp Val Phe Leu Gly Thr Phe Leu Tyr Glu Tyr  
130 135 140

Ser Arg Arg His Pro Glu Tyr Ser Val Ser Leu Leu Leu Arg Leu Ala  
145 150 155 160

5538-1010seqlisting.txt

Lys Glu Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala Thr Asp Asp Pro  
165 170 175  
Pro Thr Cys Tyr Ala Lys Val Leu Asp Glu Phe Lys Pro Leu Val Asp  
180 185 190  
Glu Pro Gln Asn Leu Val Lys Thr Asn Cys Glu Leu Phe Glu Lys Leu  
195 200 205  
Gly Glu Tyr Gly Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys  
210 215 220  
Ala Pro Gln Val Ser Thr Pro Thr Leu Val Val Glu Val Ser Arg Lys  
225 230 235 240  
Leu Gly Lys Val Gly Thr Lys Cys Cys Lys Lys Pro Glu Ser Glu Arg  
245 250 255  
Met Ser Cys Ala Asp Asp Phe Leu Ser  
260 265

<210> 110

<211> 180

<212> PRT

<213> Canis familiaris

<400> 110

Met Gln Leu Leu Leu Leu Thr Val Gly Leu Ala Leu Ile Cys Gly Leu  
1 5 10 15  
Gln Ala Gln Glu Gly Asn His Glu Glu Pro Gln Gly Gly Leu Glu Glu  
20 25 30  
Leu Ser Gly Arg Trp His Ser Val Ala Leu Ala Ser Asn Lys Ser Asp  
35 40 45  
Leu Ile Lys Pro Trp Gly His Phe Arg Val Phe Ile His Ser Met Ser  
50 55 60  
Ala Lys Asp Gly Asn Leu His Gly Asp Ile Leu Ile Pro Gln Asp Gly  
65 70 75 80  
Gln Cys Glu Lys Val Ser Leu Thr Ala Phe Lys Thr Ala Thr Ser Asn  
85 90 95  
Lys Phe Asp Leu Glu Tyr Trp Gly His Asn Asp Leu Tyr Leu Ala Glu  
100 105 110  
Val Asp Pro Lys Ser Tyr Leu Ile Leu Tyr Met Ile Asn Gln Tyr Asn  
115 120 125  
Asp Asp Thr Ser Leu Val Ala His Leu Met Val Arg Asp Leu Ser Arg  
130 135 140  
Gln Gln Asp Phe Leu Pro Ala Phe Glu Ser Val Cys Glu Asp Ile Gly  
145 150 155 160

5538-1010seqlisting.txt

Leu His Lys Asp Gln Ile Val Val Leu Ser Asp Asp Asp Arg Cys Gln  
 165 170 175

Gly Ser Arg Asp  
 180

<210> 111

<211> 187

<212> PRT

<213> Equus caballus

<400> 111

Met Lys Leu Leu Leu Leu Cys Leu Gly Leu Ile Leu Val Cys Ala Gln  
 1 5 10 15

Gln Glu Glu Asn Ser Asp Val Ala Ile Arg Asn Phe Asp Ile Ser Lys  
 20 25 30

Ile Ser Gly Glu Trp Tyr Ser Ile Phe Leu Ala Ser Asp Val Lys Glu  
 35 40 45

Lys Ile Glu Glu Asn Gly Ser Met Arg Val Phe Val Asp Val Ile Arg  
 50 55 60

Ala Leu Asp Asn Ser Ser Leu Tyr Ala Glu Tyr Gln Thr Lys Val Asn  
 65 70 75 80

Gly Glu Cys Thr Glu Phe Pro Met Val Phe Asp Lys Thr Glu Glu Asp  
 85 90 95

Gly Val Tyr Ser Leu Asn Tyr Asp Gly Tyr Asn Val Phe Arg Ile Ser  
 100 105 110

Glu Phe Glu Asn Asp Glu His Ile Ile Leu Tyr Leu Val Asn Phe Asp  
 115 120 125

Lys Asp Arg Pro Phe Gln Leu Phe Glu Phe Tyr Ala Arg Glu Pro Asp  
 130 135 140

Val Ser Pro Glu Ile Lys Glu Glu Phe Val Lys Ile Val Gln Lys Arg  
 145 150 155 160

Gly Ile Val Lys Glu Asn Ile Ile Asp Leu Thr Lys Ile Asp Arg Cys  
 165 170 175

Phe Gln Leu Arg Gly Asn Gly Val Ala Gln Ala  
 180 185

<210> 112

<211> 29

<212> PRT

<213> Equus caballus



&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; X is unknown amino acid

&lt;400&gt; 112

Ser Gln Xaa Pro Gln Ser Glu Thr Asp Tyr Ser Gln Leu Ser Gly Glu  
 1 5 10 15  
 Trp Asn Thr Ile Tyr Gly Ala Ala Ser Asn Ile Xaa Lys  
 20 25

&lt;210&gt; 113

&lt;211&gt; 211

&lt;212&gt; PRT

&lt;213&gt; Euroglyphus maynei

&lt;400&gt; 113

Thr Tyr Ala Cys Ser Ile Asn Ser Val Ser Leu Pro Ser Glu Leu Asp  
 1 5 10 15  
 Leu Arg Ser Leu Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly Cys  
 20 25 30  
 Gly Ser Cys Trp Ala Phe Ser Gly Val Ala Ser Thr Glu Ser Ala Tyr  
 35 40 45  
 Leu Ala Tyr Arg Asn Met Ser Leu Asp Leu Ala Glu Gln Glu Leu Val  
 50 55 60  
 Asp Cys Ala Ser Gln Asn Gly Cys His Gly Asp Thr Ile Pro Arg Gly  
 65 70 75 80  
 Ile Glu Tyr Ile Gln Gln Asn Gly Val Val Gln Glu His Tyr Tyr Pro  
 85 90 95  
 Tyr Val Ala Arg Glu Gln Ser Cys His Arg Pro Asn Ala Gln Arg Tyr  
 100 105 110  
 Gly Leu Lys Asn Tyr Cys Gln Ile Ser Pro Pro Asp Ser Asn Lys Ile  
 115 120 125  
 Arg Gln Ala Leu Thr Gln Thr His Thr Ala Val Ala Val Ile Ile Gly  
 130 135 140  
 Ile Lys Asp Leu Asn Ala Phe Arg His Tyr Asp Gly Arg Thr Ile Met  
 145 150 155 160  
 Gln His Asp Asn Gly Tyr Gln Pro Asn Tyr His Ala Val Asn Ile Val  
 165 170 175

Gly Tyr Gly Asn Thr Gln Gly Val Asp Tyr Trp Ile Val Arg Asn Ser  
180 185 190

Trp Asp Thr Thr Trp Gly Asp Asn Gly Tyr Gly Tyr Phe Ala Ala Asn  
195 200 205

Ile Asn Leu  
210

<210> 114

<211> 211

<212> PRT

<213> Euroglyphus maynei

<400> 114

Thr Tyr Ala Cys Ser Ile Asn Ser Val Ser Leu Pro Ser Glu Leu Asp  
1 5 10 15

Leu Arg Ser Leu Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly Cys  
20 25 30

Gly Ser Cys Trp Ala Phe Ser Gly Val Ala Ser Thr Glu Ser Ala Tyr  
35 40 45

Leu Ala Tyr Arg Asn Met Ser Leu Asp Leu Ala Glu Gln Glu Leu Val  
50 55 60

Asp Cys Ala Ser Gln Asn Gly Cys His Gly Asp Thr Ile Pro Arg Gly  
65 70 75 80

Ile Glu Tyr Ile Gln Gln Asn Gly Val Val Gln Glu His Tyr Tyr Pro  
85 90 95

Tyr Val Ala Arg Glu Gln Ser Cys His Arg Pro Asn Ala Gln Arg Tyr  
100 105 110

Gly Leu Lys Asn Tyr Cys Gln Ile Ser Pro Pro Asp Ser Asn Lys Ile  
115 120 125

Arg Gln Ala Leu Thr Gln Thr His Thr Ala Val Ala Val Ile Ile Gly  
130 135 140

Ile Lys Asp Leu Asn Ala Phe Arg His Tyr Asp Gly Arg Thr Ile Met  
145 150 155 160

Gln His Asp Asn Gly Tyr Gln Pro Asn Tyr His Ala Val Asn Ile Val  
165 170 175

Gly Tyr Gly Asn Thr Gln Gly Val Asp Tyr Trp Ile Val Arg Asn Ser  
180 185 190

Trp Asp Thr Thr Trp Gly Asp Asn Gly Tyr Gly Tyr Phe Ala Ala Asn  
195 200 205

Ile Asn Leu  
210

&lt;210&gt; 115

&lt;211&gt; 211

&lt;212&gt; PRT

&lt;213&gt; Euroglyphus maynei

&lt;400&gt; 115

Glu Thr Asn Ala Cys Ser Ile Asn Gly Asn Ala Pro Ala Glu Ile Asp  
1 5 10 15

Leu Arg Gln Met Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly Cys  
20 25 30

Gly Ser Cys Trp Ala Phe Ser Gly Val Ala Ala Thr Glu Ser Ala Tyr  
35 40 45

Leu Ala Tyr Arg Asn Gln Ser Leu Asp Leu Ala Glu Gln Glu Leu Val  
50 55 60

Asp Cys Ala Ser Gln His Gly Cys His Gly Asp Thr Ile Pro Arg Gly  
65 70 75 80

Ile Glu Tyr Ile Gln His Asn Gly Val Val Gln Glu Ser Tyr Tyr Arg  
85 90 95

Tyr Val Ala Arg Glu Gln Ser Cys Arg Arg Pro Asn Ala Gln Arg Phe  
100 105 110

Gly Ile Ser Asn Tyr Cys Gln Ile Tyr Pro Pro Asn Ala Asn Lys Ile  
115 120 125

Arg Glu Ala Leu Ala Gln Thr His Ser Ala Ile Ala Val Ile Ile Gly  
130 135 140

Ile Lys Asp Leu Asp Ala Phe Arg His Tyr Asp Gly Arg Thr Ile Ile  
145 150 155 160

Gln Arg Asp Asn Gly Tyr Gln Pro Asn Tyr His Ala Val Asn Ile Val  
165 170 175

Gly Tyr Ser Asn Ala Gln Gly Val Asp Tyr Trp Ile Val Arg Asn Ser  
180 185 190

Trp Asp Thr Asn Trp Gly Asp Asn Gly Tyr Gly Tyr Phe Ala Ala Asn  
195 200 205

Ile Asp Leu  
210

&lt;210&gt; 116

&lt;211&gt; 212

&lt;212&gt; PRT

&lt;213&gt; Euroglyphus maynei

5538-1010seqlisting.txt

<400> 116

Glu Thr Ser Ala Cys Arg Ile Asn Ser Val Asn Val Pro Ser Glu Leu  
 1 5 10 15  
 Asp Leu Arg Ser Leu Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly  
 20 25 30  
 Cys Gly Ser Cys Trp Ala Phe Ser Gly Val Ala Ala Thr Glu Ser Ala  
 35 40 45  
 Tyr Leu Ala Tyr Arg Asn Thr Ser Leu Asp Leu Ser Glu Gln Glu Leu  
 50 55 60  
 Val Asp Cys Ala Ser Gln His Gly Cys His Gly Asp Thr Ile Pro Arg  
 65 70 75 80  
 Gly Ile Glu Tyr Ile Gln Gln Asn Gly Val Val Glu Glu Arg Ser Tyr  
 85 90 95  
 Pro Tyr Val Ala Arg Glu Gln Gln Cys Arg Arg Pro Asn Ser Gln His  
 100 105 110  
 Tyr Gly Ile Ser Asn Tyr Cys Gln Ile Tyr Pro Pro Asp Val Lys Gln  
 115 120 125  
 Ile Arg Glu Ala Leu Thr Gln Thr His Thr Ala Ile Ala Val Ile Ile  
 130 135 140  
 Gly Ile Lys Asp Leu Arg Ala Phe Gln His Tyr Asp Gly Arg Thr Ile  
 145 150 155 160  
 Ile Gln His Asp Asn Gly Tyr Gln Pro Asn Tyr His Ala Val Asn Ile  
 165 170 175  
 Val Gly Tyr Gly Ser Thr Gln Gly Val Asp Tyr Trp Ile Val Arg Asn  
 180 185 190  
 Ser Trp Asp Thr Thr Trp Gly Asp Ser Gly Tyr Gly Tyr Phe Gln Ala  
 195 200 205  
 Gly Asn Asn Leu  
 210

<210> 117

<211> 307

<212> PRT

<213> Poa pratensis

<400> 117

Met Ala Val Gln Lys Tyr Thr Val Ala Leu Phe Leu Val Ala Leu Val  
 1 5 10 15  
 Val Gly Pro Ala Ala Ser Tyr Ala Ala Asp Leu Ser Tyr Gly Ala Pro  
 20 25 30

## 5538-1010seqlisting.txt

Ala Thr Pro Ala Ala Pro Ala Ala Gly Tyr Thr Pro Ala Ala Pro Ala  
 35 40 45  
 Gly Ala Ala Pro Lys Ala Thr Thr Asp Glu Gln Lys Met Ile Glu Lys  
 50 55 60  
 Ile Asn Val Gly Phe Lys Ala Ala Val Ala Ala Ala Gly Gly Val Pro  
 65 70 75 80  
 Ala Ala Asn Lys Tyr Lys Thr Phe Val Ala Thr Phe Gly Ala Ala Ser  
 85 90 95  
 Asn Lys Ala Phe Ala Glu Ala Leu Ser Thr Glu Pro Lys Gly Ala Ala  
 100 105 110  
 Val Asp Ser Ser Lys Ala Ala Leu Thr Ser Lys Leu Asp Ala Ala Tyr  
 115 120 125  
 Lys Leu Ala Tyr Lys Ser Ala Glu Gly Ala Thr Pro Glu Ala Lys Tyr  
 130 135 140  
 Asp Asp Tyr Val Ala Thr Leu Ser Glu Ala Leu Arg Ile Ile Ala Gly  
 145 150 155 160  
 Thr Leu Glu Val His Gly Val Lys Pro Ala Ala Glu Glu Val Lys Ala  
 165 170 175  
 Thr Pro Ala Gly Glu Leu Gln Val Ile Asp Lys Val Asp Ala Ala Phe  
 180 185 190  
 Lys Val Ala Ala Thr Ala Ala Asn Ala Ala Pro Ala Asn Asp Lys Phe  
 195 200 205  
 Thr Val Phe Glu Ala Ala Phe Asn Asp Ala Ile Lys Ala Ser Thr Gly  
 210 215 220  
 Gly Ala Tyr Gln Ser Tyr Lys Phe Ile Pro Ala Leu Glu Ala Ala Val  
 225 230 235 240  
 Lys Gln Ser Tyr Ala Ala Thr Val Ala Thr Ala Pro Ala Val Lys Tyr  
 245 250 255  
 Thr Val Phe Glu Thr Ala Leu Lys Lys Ala Ile Thr Ala Met Ser Gln  
 260 265 270  
 Ala Gln Lys Ala Ala Lys Pro Ala Ala Ala Ala Thr Gly Thr Ala Thr  
 275 280 285  
 Ala Ala Val Gly Ala Ala Thr Gly Ala Ala Thr Ala Ala Ala Gly Gly  
 290 295 300  
 Tyr Lys Val  
 305

&lt;210&gt; 118

&lt;211&gt; 333

&lt;212&gt; PRT

&lt;213&gt; Poa pratensis

## 5538-1010seqlisting.txt

&lt;400&gt; 118

Met Ala Val His Gln Tyr Thr Val Ala Leu Phe Leu Ala Val Ala Leu  
 1 5 10 15  
 Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Val Gly Tyr Gly Ala  
 20 25 30  
 Pro Ala Thr Leu Ala Thr Pro Ala Thr Pro Ala Ala Pro Ala Ala Gly  
 35 40 45  
 Tyr Thr Pro Ala Ala Pro Ala Gly Ala Ala Pro Lys Ala Thr Thr Asp  
 50 55 60  
 Glu Gln Lys Leu Ile Glu Lys Ile Asn Ala Gly Phe Lys Ala Ala Val  
 65 70 75 80  
 Ala Ala Ala Ala Gly Val Pro Ala Val Asp Lys Tyr Lys Thr Phe Val  
 85 90 95  
 Ala Thr Phe Gly Thr Ala Ser Asn Lys Ala Phe Ala Glu Ala Leu Ser  
 100 105 110  
 Thr Glu Pro Lys Gly Ala Ala Ala Ala Ser Ser Asn Ala Val Leu Thr  
 115 120 125  
 Ser Lys Leu Asp Ala Ala Tyr Lys Leu Ala Tyr Lys Ser Ala Glu Gly  
 130 135 140  
 Ala Thr Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala Thr Leu Ser Glu  
 145 150 155 160  
 Ala Leu Arg Ile Ile Ala Gly Thr Leu Glu Val His Ala Val Lys Pro  
 165 170 175  
 Ala Gly Glu Glu Val Lys Ala Ile Pro Ala Gly Glu Leu Gln Val Ile  
 180 185 190  
 Asp Lys Val Asp Ala Ala Phe Lys Val Ala Ala Thr Ala Ala Asn Ala  
 195 200 205  
 Ala Pro Ala Asn Asp Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Asp  
 210 215 220  
 Ala Ile Lys Ala Ser Thr Gly Gly Ala Tyr Gln Ser Tyr Lys Phe Ile  
 225 230 235 240  
 Pro Ala Leu Glu Ala Ala Val Lys Gln Ser Tyr Ala Ala Thr Val Ala  
 245 250 255  
 Thr Ala Pro Ala Val Lys Tyr Thr Val Phe Glu Thr Ala Leu Lys Lys  
 260 265 270  
 Ala Ile Thr Ala Met Ser Gln Ala Gln Lys Ala Ala Lys Pro Ala Ala  
 275 280 285  
 Ala Val Thr Ala Thr Ala Thr Gly Ala Val Gly Ala Thr Gly Ala  
 290 295 300  
 Val Gly Ala Ala Thr Gly Ala Ala Thr Ala Ala Ala Gly Gly Tyr Lys  
 305 310 315 320

Thr Gly Ala Ala Thr Pro Thr Ala Gly Gly Tyr Lys Val  
 325 330

<210> 119

<211> 373

<212> PRT

<213> Poa pratensis

<400> 119

Met Asp Lys Ala Asn Gly Ala Tyr Lys Thr Ala Leu Lys Ala Ala Ser  
 1 5 10 15  
 Ala Val Ala Pro Ala Glu Lys Phe Pro Val Phe Gln Ala Thr Phe Asp  
 20 25 30  
 Lys Asn Leu Lys Glu Gly Leu Ser Gly Pro Asp Ala Val Gly Phe Ala  
 35 40 45  
 Lys Lys Leu Asp Ala Phe Ile Gln Thr Ser Tyr Leu Ser Thr Lys Ala  
 50 55 60  
 Ala Glu Pro Lys Glu Lys Phe Asp Leu Phe Val Leu Ser Leu Thr Glu  
 65 70 75 80  
 Val Leu Arg Phe Met Ala Gly Ala Val Lys Ala Pro Pro Ala Ser Lys  
 85 90 95  
 Phe Pro Ala Lys Pro Ala Pro Lys Val Ala Ala Tyr Thr Pro Ala Ala  
 100 105 110  
 Pro Ala Gly Ala Ala Pro Lys Ala Thr Thr Asp Glu Gln Lys Leu Ile  
 115 120 125  
 Glu Lys Ile Asn Val Gly Phe Lys Ala Ala Val Ala Ala Ala Ala Gly  
 130 135 140  
 Val Pro Ala Ala Ser Lys Tyr Lys Thr Phe Val Ala Thr Phe Gly Ala  
 145 150 155 160  
 Ala Ser Asn Lys Ala Phe Ala Glu Ala Leu Ser Thr Glu Pro Lys Gly  
 165 170 175  
 Ala Ala Val Ala Ser Ser Lys Ala Val Leu Thr Ser Lys Leu Asp Ala  
 180 185 190  
 Ala Tyr Lys Leu Ala Tyr Lys Ser Ala Glu Gly Ala Thr Pro Glu Ala  
 195 200 205  
 Lys Tyr Asp Ala Tyr Val Ala Thr Leu Ser Glu Ala Leu Arg Ile Ile  
 210 215 220  
 Ala Gly Thr Leu Glu Val His Gly Val Lys Pro Ala Ala Glu Glu Val  
 225 230 235 240  
 Lys Ala Ile Pro Ala Gly Glu Leu Gln Val Ile Asp Lys Val Asp Ala  
 245 250 255

## 5538-1010seqlisting.txt

Ala Phe Lys Val Ala Ala Thr Ala Ala Asn Ala Ala Pro Ala Asn Asp  
 260 265 270  
 Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Asp Ala Ile Lys Ala Ser  
 275 280 285  
 Thr Gly Gly Ala Tyr Gln Ser Tyr Lys Phe Ile Pro Ala Leu Glu Ala  
 290 295 300  
 Ala Val Lys Gln Ser Tyr Ala Ala Thr Val Ala Thr Ala Pro Ala Val  
 305 310 315 320  
 Lys Tyr Thr Val Phe Glu Thr Ala Leu Lys Lys Ala Ile Thr Ala Met  
 325 330 335  
 Ser Gln Ala Gln Lys Ala Ala Lys Pro Ala Ala Ala Val Thr Gly Thr  
 340 345 350  
 Ala Thr Ser Ala Val Gly Ala Ala Thr Gly Ala Ala Thr Ala Ala Ala  
 355 360 365  
 Gly Gly Tyr Lys Val  
 370

&lt;210&gt; 120

&lt;211&gt; 685

&lt;212&gt; PRT

<213> *Periplaneta americana*

&lt;400&gt; 120

Met Lys Thr Ala Leu Val Phe Ala Ala Val Val Ala Phe Val Ala Ala  
 1 5 10 15  
 Arg Phe Pro Asp His Lys Asp Tyr Lys Gln Leu Ala Asp Lys Gln Phe  
 20 25 30  
 Leu Ala Lys Gln Arg Asp Val Leu Arg Leu Phe His Arg Val His Gln  
 35 40 45  
 His Asn Ile Leu Asn Asp Gln Val Glu Val Gly Ile Pro Met Thr Ser  
 50 55 60  
 Lys Gln Thr Ser Ala Thr Thr Val Pro Pro Ser Gly Glu Ala Val His  
 65 70 75 80  
 Gly Val Leu Gln Glu Gly His Ala Arg Pro Arg Gly Glu Pro Phe Ser  
 85 90 95  
 Val Asn Tyr Glu Lys His Arg Glu Gln Ala Ile Met Leu Tyr Asp Leu  
 100 105 110  
 Leu Tyr Phe Ala Asn Asp Tyr Asp Thr Phe Tyr Lys Thr Ala Cys Trp  
 115 120 125  
 Ala Arg Asp Arg Val Asn Glu Gly Met Phe Met Tyr Ser Phe Ser Ile  
 130 135 140



## 5538-1010seqlisting.txt

Ala Val Phe His Arg Asp Asp Met Gln Gly Val Met Leu Pro Pro Pro  
 145 150 155 160  
 Tyr Glu Val Tyr Pro Tyr Leu Phe Val Asp His Asp Val Ile His Met  
 165 170 175  
 Ala Gln Lys Tyr Trp Met Lys Asn Ala Gly Ser Gly Glu His His Ser  
 180 185 190  
 His Val Ile Pro Val Asn Phe Thr Leu Arg Thr Gln Asp His Leu Leu  
 195 200 205  
 Ala Tyr Phe Thr Ser Asp Val Asn Leu Asn Ala Phe Asn Thr Tyr Tyr  
 210 215 220  
 Arg Tyr Tyr Tyr Pro Ser Trp Tyr Asn Thr Thr Leu Tyr Gly His Asn  
 225 230 235 240  
 Ile Asp Arg Arg Gly Glu Gln Phe Tyr Tyr Thr Tyr Lys Gln Ile Tyr  
 245 250 255  
 Ala Arg Tyr Phe Leu Glu Arg Leu Ser Asn Asp Leu Pro Asp Val Tyr  
 260 265 270  
 Pro Phe Tyr Tyr Ser Lys Pro Val Lys Ser Ala Tyr Asn Pro Asn Leu  
 275 280 285  
 Arg Tyr His Asn Gly Glu Glu Met Pro Val Arg Pro Ser Asn Met Tyr  
 290 295 300  
 Val Thr Asn Phe Asp Leu Tyr Tyr Ile Ala Asp Ile Lys Asn Tyr Glu  
 305 310 315 320  
 Lys Arg Val Glu Asp Ala Ile Asp Phe Gly Tyr Ala Phe Asp Glu His  
 325 330 335  
 Met Lys Pro His Ser Leu Tyr His Asp Val His Gly Met Glu Tyr Leu  
 340 345 350  
 Ala Asp Met Ile Glu Gly Asn Met Asp Ser Pro Asn Phe Tyr Phe Tyr  
 355 360 365  
 Gly Ser Ile Tyr His Met Tyr His Ser Met Ile Gly His Ile Val Asp  
 370 375 380  
 Pro Tyr His Lys Met Gly Leu Ala Pro Ser Leu Glu His Pro Glu Thr  
 385 390 395 400  
 Val Leu Arg Asp Pro Val Phe Tyr Gln Leu Trp Lys Arg Val Asp His  
 405 410 415  
 Leu Phe Gln Lys Tyr Lys Asn Arg Leu Pro Arg Tyr Thr His Asp Glu  
 420 425 430  
 Leu Ala Phe Glu Gly Val Lys Val Glu Asn Val Asp Val Gly Lys Leu  
 435 440 445  
 Tyr Thr Tyr Phe Glu Gln Tyr Asp Met Ser Leu Asp Met Ala Val Tyr  
 450 455 460  
 Val Asn Asn Val Asp Gln Ile Ser Asn Val Asp Val Gln Leu Ala Val  
 465 470 475 480

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Arg Leu Asn His Lys Pro Phe Thr Tyr Asn Ile Glu Val Ser Ser Asp  
485 490 495  
Lys Ala Gln Asp Val Tyr Val Ala Val Phe Leu Gly Pro Lys Tyr Asp  
500 505 510  
Tyr Leu Gly Arg Glu Tyr Asp Leu Asn Asp Arg Arg His Tyr Phe Val  
515 520 525  
Glu Met Asp Arg Phe Pro Tyr His Val Gly Ala Gly Lys Thr Val Ile  
530 535 540  
Glu Arg Asn Ser His Asp Ser Asn Ile Ile Ala Pro Glu Arg Asp Ser  
545 550 555 560  
Tyr Arg Thr Phe Tyr Lys Lys Val Gln Glu Ala Tyr Glu Gly Lys Ser  
565 570 575  
Gln Tyr Tyr Val Asp Lys Gly His Asn Tyr Cys Gly Tyr Pro Glu Asn  
580 585 590  
Leu Leu Ile Pro Lys Gly Lys Lys Gly Gly Gln Ala Tyr Thr Phe Tyr  
595 600 605  
Val Ile Val Thr Pro Tyr Val Lys Gln Asp Glu His Asp Phe Glu Pro  
610 615 620  
Tyr Asn Tyr Lys Ala Phe Ser Tyr Cys Gly Val Gly Ser Glu Arg Lys  
625 630 635 640  
Tyr Pro Asp Asn Lys Pro Leu Gly Tyr Pro Phe Asp Arg Lys Ile Tyr  
645 650 655  
Ser Asn Asp Phe Tyr Thr Pro Asn Met Tyr Phe Lys Asp Val Ile Ile  
660 665 670  
Phe His Lys Lys Tyr Asp Glu Val Gly Val Gln Gly His  
675 680 685

<210> 121

<211> 446

<212> PRT

<213> Periplaneta americana

<400> 121

Ile Asn Glu Ile His Ser Ile Ile Gly Leu Pro Pro Phe Val Pro Pro  
1 5 10 15  
Ser Arg Arg His Ala Arg Arg Gly Val Gly Ile Asn Gly Leu Ile Asp  
20 25 30  
Asp Val Ile Ala Ile Leu Pro Val Asp Glu Leu Lys Ala Leu Phe Gln  
35 40 45  
Glu Lys Leu Glu Thr Ser Pro Asp Phe Lys Ala Leu Tyr Asp Ala Ile  
50 55 60

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Arg Ser Pro Glu Phe Gln Ser Ile Ile Ser Thr Leu Asn Ala Met Gln  
 65 70 75 80  
 Arg Ser Glu His His Gln Asn Leu Arg Asp Lys Gly Val Asp Val Asp  
 85 90 95  
 His Phe Ile Gln Leu Ile Arg Ala Leu Phe Gly Leu Ser Arg Ala Ala  
 100 105 110  
 Arg Asn Leu Gln Asp Asp Leu Asn Asp Phe Leu His Ser Leu Glu Pro  
 115 120 125  
 Ile Ser Pro Arg His Arg His Gly Leu Pro Arg Gln Arg Arg Arg Ser  
 130 135 140  
 Ala Arg Val Ser Ala Tyr Leu His Ala Asp Asp Phe His Lys Ile Ile  
 145 150 155 160  
 Thr Thr Ile Glu Ala Leu Pro Glu Phe Ala Asn Phe Tyr Asn Phe Leu  
 165 170 175  
 Lys Glu His Gly Leu Asp Val Val Asp Tyr Ile Asn Glu Ile His Ser  
 180 185 190  
 Ile Ile Gly Leu Pro Pro Phe Val Pro Pro Ser Arg Arg His Ala Arg  
 195 200 205  
 Arg Gly Val Gly Ile Asn Gly Leu Ile Asp Asp Val Ile Ala Ile Leu  
 210 215 220  
 Pro Val Asp Glu Leu Lys Ala Leu Phe Gln Glu Lys Leu Glu Thr Ser  
 225 230 235 240  
 Pro Asp Phe Lys Ala Leu Tyr Asp Ala Ile Arg Ser Pro Glu Phe Gln  
 245 250 255  
 Ser Ile Ile Ser Thr Leu Asn Ala Met Pro Glu Tyr Gln Glu Leu Leu  
 260 265 270  
 Gln Asn Leu Arg Asp Lys Gly Val Asp Val Asp His Phe Ile Arg Val  
 275 280 285  
 Asp Gln Gly Thr Leu Arg Thr Leu Ser Ser Gly Gln Arg Asn Leu Gln  
 290 295 300  
 Asp Asp Leu Asn Asp Phe Leu Ala Leu Ile Pro Thr Asp Gln Ile Leu  
 305 310 315 320  
 Ala Ile Ala Met Asp Tyr Leu Ala Asn Asp Ala Glu Val Gln Glu Leu  
 325 330 335  
 Val Ala Tyr Leu Gln Ser Asp Asp Phe His Lys Ile Ile Thr Thr Ile  
 340 345 350  
 Glu Ala Leu Pro Glu Phe Ala Asn Phe Tyr Asn Phe Leu Lys Glu His  
 355 360 365  
 Gly Leu Asp Val Val Asp Tyr Ile Asn Glu Ile His Ser Ile Ile Gly  
 370 375 380  
 Leu Pro Pro Phe Val Pro Pro Ser Gln Arg His Ala Arg Arg Gly Val  
 385 390 395 400

## 5538-1010seqlisting.txt

Gly Ile Asn Gly Leu Ile Asp Asp Val Ile Ala Ile Leu Pro Val Asp  
 405 410 415

Glu Leu Lys Ala Leu Phe Gln Glu Lys Leu Glu Thr Ser Pro Asp Phe  
 420 425 430

Lys Ala Leu Tyr Asp Ala Ile Asp Leu Arg Ser Ser Arg Ala  
 435 440 445

<210> 122

<211> 352

<212> PRT

<213> Blattella germanica

<400> 122

Met Ile Gly Leu Lys Leu Val Thr Val Leu Phe Ala Val Ala Thr Ile  
 1 5 10 15

Thr His Ala Ala Glu Leu Gln Arg Val Pro Leu Tyr Lys Leu Val His  
 20 25 30

Val Phe Ile Asn Thr Gln Tyr Ala Gly Ile Thr Lys Ile Gly Asn Gln  
 35 40 45

Asn Phe Leu Thr Val Phe Asp Ser Thr Ser Cys Asn Val Val Val Ala  
 50 55 60

Ser Gln Glu Cys Val Gly Gly Ala Cys Val Cys Pro Asn Leu Gln Lys  
 65 70 75 80

Tyr Glu Lys Leu Lys Pro Lys Tyr Ile Ser Asp Gly Asn Val Gln Val  
 85 90 95

Lys Phe Phe Asp Thr Gly Ser Ala Val Gly Arg Gly Ile Glu Asp Ser  
 100 105 110

Leu Thr Ile Ser Asn Leu Thr Thr Ser Gln Gln Asp Ile Val Leu Ala  
 115 120 125

Asp Glu Leu Ser Gln Glu Val Cys Ile Leu Ser Ala Asp Val Val Val  
 130 135 140

Gly Ile Ala Ala Pro Gly Cys Pro Asn Ala Leu Lys Gly Lys Thr Val  
 145 150 155 160

Leu Glu Asn Phe Val Glu Glu Asn Leu Ile Ala Pro Val Phe Ser Ile  
 165 170 175

His His Ala Arg Phe Gln Asp Gly Glu His Phe Gly Glu Ile Ile Phe  
 180 185 190

Gly Gly Ser Asp Trp Lys Tyr Val Asp Gly Glu Phe Thr Tyr Val Pro  
 195 200 205

Leu Val Gly Asp Asp Ser Trp Lys Phe Arg Leu Asp Gly Val Lys Ile  
 210 215 220

Gly Asp Thr Thr Val Ala Pro Ala Gly Thr Gln Ala Ile Ile Asp Thr  
 225 230 235 240  
 Ser Lys Ala Ile Ile Val Gly Pro Lys Ala Tyr Val Asn Pro Ile Asn  
 245 250 255  
 Glu Ala Ile Gly Cys Val Val Glu Lys Thr Thr Thr Arg Arg Ile Cys  
 260 265 270  
 Lys Leu Asp Cys Ser Lys Ile Pro Ser Leu Pro Asp Val Thr Phe Val  
 275 280 285  
 Ile Asn Gly Arg Asn Phe Asn Ile Ser Ser Gln Tyr Tyr Ile Gln Gln  
 290 295 300  
 Asn Gly Asn Leu Cys Tyr Ser Gly Phe Gln Pro Cys Gly His Ser Asp  
 305 310 315 320  
 His Phe Phe Ile Gly Asp Phe Phe Val Asp His Tyr Tyr Ser Glu Phe  
 325 330 335  
 Asn Trp Glu Asn Lys Thr Met Gly Phe Gly Arg Ser Val Glu Ser Val  
 340 345 350

&lt;210&gt; 123

&lt;211&gt; 182

&lt;212&gt; PRT

&lt;213&gt; Blattella germanica

&lt;400&gt; 123

Ala Val Leu Ala Leu Cys Ala Thr Asp Thr Leu Ala Asn Glu Asp Cys  
 1 5 10  
 Phe Arg His Glu Ser Leu Val Pro Asn Leu Asp Tyr Glu Arg Phe Arg  
 20 25 30  
 Gly Ser Trp Ile Ile Ala Ala Gly Thr Ser Glu Ala Leu Thr Gln Tyr  
 35 40 45  
 Lys Cys Trp Ile Asp Arg Phe Ser Tyr Asp Asp Ala Leu Val Ser Lys  
 50 55 60  
 Tyr Thr Asp Ser Gln Gly Lys Asn Arg Thr Thr Ile Arg Gly Arg Thr  
 65 70 75 80  
 Lys Phe Glu Gly Asn Lys Phe Thr Ile Asp Tyr Asn Asp Lys Gly Lys  
 85 90 95  
 Ala Phe Ser Ala Pro Tyr Ser Val Leu Ala Thr Asp Tyr Glu Asn Tyr  
 100 105 110  
 Ala Ile Val Glu Gly Cys Pro Ala Ala Ala Asn Gly His Val Ile Tyr  
 115 120 125  
 Val Gln Ile Arg Phe Ser Val Arg Arg Phe His Pro Lys Leu Gly Asp  
 130 135 140

## 5538-1010seqlisting.txt

Lys Glu Met Ile Gln His Tyr Thr Leu Asp Gln Val Asn Gln His Lys  
 145 150 155 160

Lys Ala Ile Glu Glu Asp Leu Lys His Phe Asn Leu Lys Tyr Glu Asp  
 165 170 175

Leu His Ser Thr Cys His  
 180

<210> 124

<211> 200

<212> PRT

<213> Blattella germanica

<400> 124

Tyr Lys Leu Thr Tyr Cys Pro Val Lys Ala Leu Gly Glu Pro Ile Arg  
 1 5 10 15

Phe Leu Leu Ser Tyr Gly Glu Lys Asp Phe Glu Asp Tyr Arg Phe Gln  
 20 25 30

Glu Gly Asp Trp Pro Asn Leu Lys Pro Ser Met Pro Phe Gly Lys Thr  
 35 40 45

Pro Val Leu Glu Ile Asp Gly Lys Gln Thr His Gln Ser Val Ala Ile  
 50 55 60

Ser Arg Tyr Leu Gly Lys Gln Phe Gly Leu Ser Gly Lys Asp Asp Trp  
 65 70 75 80

Glu Asn Leu Glu Ile Asp Met Ile Val Asp Thr Ile Ser Asp Phe Arg  
 85 90 95

Ala Ala Ile Ala Asn Tyr His Tyr Asp Ala Asp Glu Asn Ser Lys Gln  
 100 105 110

Lys Lys Trp Asp Pro Leu Lys Lys Glu Thr Ile Pro Tyr Tyr Thr Lys  
 115 120 125

Lys Phe Asp Glu Val Val Lys Ala Asn Gly Gly Tyr Leu Ala Ala Gly  
 130 135 140

Lys Leu Thr Trp Ala Asp Phe Tyr Phe Val Ala Ile Leu Asp Tyr Leu  
 145 150 155 160

Asn His Met Ala Lys Glu Asp Leu Val Ala Asn Gln Pro Asn Leu Lys  
 165 170 175

Ala Leu Arg Glu Lys Val Leu Gly Leu Pro Ala Ile Lys Ala Trp Val  
 180 185 190

Ala Lys Arg Pro Pro Thr Asp Leu  
 195 200